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FMC

February 28, 2001

Ms. Linda Meyer
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Subject: Astaris Idaho LLC, EPA ID No. IDD 07092 9518
Pond 8S Post-Closure Monitoring and Inspection Summary for 2000

Dear Ms. Meyer:

Enclosed please find Pond 8S Post-Closure Monitoring and Inspection Summary for 2000. This report is being submitted to EPA for information purposes only.

Overall, acceptable conditions were noted throughout the monitoring period for the final cover and monitoring systems. No temperature alarms were triggered at the Temperature Monitoring Points (TMPs), and no pressure alarms were triggered by the pressure monitoring system. No water was pumped from the cap drainage subdrain outlets #1 or #2 during the monitoring period. Therefore, the total cap drainage / infiltration rate was zero for the monitoring period.

Per the Pond 8S Post-Closure Plan, post-closure monitoring will continue at Pond 8S. Please feel free to contact me at (208) 236-8658 should you have questions regarding this information.

Very truly yours,

Rob J Hartman

Rob J. Hartman
FMC Corporation

Enclosure

cc: Wallace Reid, EPA w/ enclosure
Susan Hanson, Shoshone-Bannock Tribes w/ enclosure

IDD 9518
FF 17A
2/28/01

POND 8S POST-CLOSURE
Monitoring and Inspection Summary for 2000

Astaris Idaho LLC
EPA ID No. IDD 07092 9518

February 28, 2001

POND 8S POST-CLOSURE
Monitoring and Inspection Summary for 2000
February 28, 2001

A summary of the post-closure monitoring and inspection activities performed at Pond 8S during the first year of post-closure monitoring (October 1999 through December 2000) is provided below. The summary is generally organized in the same order as on Table 10-1 Post-Closure Activity Checklist from the Pond 8S post-closure plan. A copy of Table 10-1 is attached for reference.

Attachment A is a copy of the Temperature and Pressure Monitoring Results, Quarterly Monitoring Equipment Inspection forms, and Quarterly Groundcover Inspection forms presented by quarter for 4th quarter 1999 through 4th quarter 2000. Attachment B is a summary of the quarterly Gas Monitoring Point (GMP) soil gas monitoring results for 4th quarter 1999 through 4th quarter 2000. These attachments are referenced under the relevant sections below.

Groundwater Monitoring

Groundwater monitoring was conducted quarterly per the Pond 8S post-closure plan and RCRA Interim Status Groundwater Monitoring Plan (August 1999) for the facility. The monitoring results are provided under separate cover in the "RCRA Interim Status 2000 Groundwater Monitoring Assessment," that is submitted to EPA on or before March 1, 2001. In summary, monitored constituent concentrations were at or below levels measured during the previous year (1999). As in prior monitoring events, elemental phosphorus was not detected in the Pond 8S groundwater wells 155, 156 and 157 (downgradient wells) during the semi-annual monitoring events (May and November 2000).

Quarterly Inspections

Acceptable conditions were noted throughout the monitoring period. Items that required follow-up are summarized below. Copies of the Quarterly Monitoring Equipment and Groundcover Inspection forms are included in Attachment A.

- Cap and cover: Acceptable conditions were noted throughout the monitoring period. Potential rodent activity on the cap will continue to be monitored in spring 2001, and may require trapping and relocation if rodent activity is still noted.
- Settlement monuments: Acceptable conditions were noted throughout the monitoring period. Erosion noted around monuments in the 3rd quarter 2000 was erroneous, the monuments were in "as-built" condition per follow-up inspection with construction engineer.
- Drainage systems: Acceptable conditions were noted throughout the monitoring period.
- Security: Acceptable conditions were noted throughout the monitoring period.
- Temperature and pressure monitoring equipment (enclosures/hardware): Acceptable conditions were noted throughout the monitoring period. Difficulties encountered with power, programming and Data Recorder Modules (DRMs) are discussed below.
- Groundwater monitoring wells: Acceptable conditions were noted throughout the monitoring period. The missing "3" label on well 183 has been replaced.
- LCDRS: Pond 8S does not have a LCDRS so this item is not applicable.

Storm Event Inspections

There were no 25-year, 24-hour storm events or other extraordinary natural events that triggered a storm event inspection during the reporting period.

Temperature Monitoring

No temperature alarms were triggered at the Temperature Monitoring Points (TMPs). The temperature trigger of 22° C was not exceeded at any of the TMPs during the monitoring period. Therefore, no TMP monitoring for soil gas, notification or reporting was required during the monitoring period. Note that the temperature alarm system was designed/installed so that separate signal is sent to the alarm panel board. This system prevented the temperature alarm from being affected by the data logging difficulties described below.

Graphs of the TMP temperature data are presented for the 4th quarter 1999 through 4th quarter 2000 in Attachment A.

As may be expected with the startup of any new electronic system, some difficulties were encountered and actions taken to correct the temperature data logging system as described below and on the quarterly Temperature and Pressure Monitoring Results provided in Attachment A. The 1st quarter 2000 Monitoring Equipment Inspection form noted that the temperature readout panel for T03 was not functional. The panel was replaced with a new panel under manufacturer warranty during the 2nd quarter 2000. Temperature data was not logged from 5/19/00 to 7/11/00 due to a loose ground wire that reset the Data Recorder Modules (DRMs). The problem was fully corrected by 7/18/00.

The logged temperature data for the 3rd quarter were observed to be too low by several degrees C (based on previous observations of subsurface temperature at Pond 8S and a groundwater temperature range of 13° to 15° C at the Pond 8S wells). The temperature DRMs were found to have been incorrectly reprogrammed following the programming loss during the 2nd quarter 2000. The temperature DRMs programming was checked and reprogrammed from a range of 0° to 25° C to the correct range of 0° to 35° C (consistent with the temperature probes' calibrated range). This resulted in an apparent "step" increase in temperature from a range around 12° C at the end of 3rd quarter 2000 to a range around 16° C beginning the 4th quarter 2000. As described above, the temperature data logging signal and programming is independent of the temperature alarm signal and readout and, thus, temperature DRM programming issues did not affect the finding that no temperature alarms were triggered.

Data was not logged at TMPs T01 and T03 during 11/1/00 to 12/31/00 due to DRM failure (the DRMs would not reprogram to log data). The DRMs were sent to the factory for service and were returned to service 1/12/01. Note that the pattern of data that was logged for T01 and T03 during 10/01/00 to 11/1/00 follows the same pattern as the data logged for T04 during the same period. The pattern of data logged for T04 throughout the 4th quarter 2000 is likely a good representation of the data pattern that would have been observed for T01 and T03 during 11/01/00 to 12/31/00. Spare DRMs were purchased and stored on-site to avoid downtime from DRM failures in the future.

The temperature probes were recalibrated (annual recalibration) on 10/30/00 and 10/31/00.

Pressure Monitoring

No pressure alarms were triggered by the pressure monitoring system. The pressure trigger of 27 inches Hg was not exceeded during the monitoring period. Therefore, no Gas Monitoring Point (GMP) monitoring for soil gas (other than regularly scheduled quarterly GMP monitoring), notification or reporting was required during the monitoring period. Note that the pressure alarm system was designed/installed so that a separate signal is sent to the alarm panel board. This system prevented the pressure alarm from being affected by the pressure data logging difficulties described below.

Graphs of the pressure data are presented for the 4th quarter 1999 through 4th quarter 2000 in Attachment A.

As may be expected with the startup of any new electronic system, some difficulties were encountered and actions taken to correct the pressure monitoring and data logging system as described below and on the quarterly Temperature and Pressure Monitoring Results provided in Attachment A. Pressure data during the 4th quarter 1999 and through 3/23/00 in the 1st quarter 2000 was logged below the lower set-point of 25 inches Hg so the graphs have a "flat line" appearance. At some time after system startup, a power fault apparently reset the pressure DRM to log the output from the sensor as gage pressure (thus logging data as essentially 0 inches Hg). The pressure DRM was correctly reprogrammed on 3/23/00. As described above in the Temperature Monitoring section of this report, due to a loose ground wire that reset the DRMs, pressure data was not logged from 5/19/00 to 7/14/00. The problem was fully corrected by 7/18/00.

A new factory-calibrated pressure sensor was installed on 11/1/00 (annual recalibration) and the original sensor was sent to the manufacturer for factory calibration. The recalibrated sensor was returned and can be used as a calibrated spare.

Soil Gas Monitoring (GMPs)

Soil gas monitoring for hydrogen, phosphine, and hydrogen cyanide was conducted quarterly at the ten GMPs during 4th quarter 1999 through 4th quarter 2000. Overall, soil gases were not detected in eight of the ten GMPs. Initial (peak) detections of hydrogen in GMPs 05 and 07 during the 1st quarter of 2000 are considered false positives because the instrument reading rapidly dropped to zero and hydrogen was not detected in these GMPs in the subsequent 3 quarters. Phosphine and hydrogen cyanide were detected in GMP 07 during 4th quarter 1999 and 3rd and 4th quarter 2000 and GMP 09 during 3rd and 4th quarter 2000. No triggers or actions are prescribed for detection of gases in the GMPs. As discussed above, there were no pressure or temperature alarms triggered during the monitoring period that would indicate problems within the Pond 8S Limit of Final Cover (LFC). FMC/Astaris will continue to evaluate future soil gas monitoring results for trends that may explain the occurrence and implications, if any, of soil gases at GMPs 07 and 09. A summary of the GMP monitoring results by quarter is provided as Attachment B.

The portable gas monitors were factory-calibrated during December 2000 (annual recalibration).

Cap Drainage Monitoring

No water was pumped from the cap drainage subdrain outlets #1 or #2 during the monitoring period (readings on the totalizing meters were both zero on 9/30/00). Therefore, the total cap drainage / infiltration rate was zero for the monitoring period and required no further evaluation or action. In the future, cap drainage monitoring (reading the totalizing meters) will be conducted during the 4th quarter. The Quarterly Groundcover Inspection form for Pond 8S has been revised to reflect this revision.

Topsoil Monitoring

Topsoil thickness as measured at the topsoil markers was acceptable and no action was required throughout the monitoring period.

Settlement Monitoring

Annual settlement monitoring (survey of permanent settlement monuments) indicated that settlement rates are acceptable at all five monuments. No visual subsidence or seismic events occurred that would have triggered additional settlement monitoring, engineering evaluation or repair during the monitoring period.

Post-Closure Plan Revisions

There were no changes in plant operations or regulations that required revision of the Pond 8S post-closure plan.

TABLE 10-1
Post-Closure Activity Checklist

Post-closure Monitoring/Inspection Activity	Record/Report	Activity Frequency	Reporting Frequency *	Trigger(s)	Action(s)	Closure Plan Reference
Groundwater monitoring						
Quarterly monitoring	Quarterly data validation report	Quarterly	Quarterly	See IS GW monitoring plan	See IS GW monitoring plan	Sections 4 & 5; Attachment 10-1
Annual groundwater assessment	Statistical evaluation, and Annual Assessment Report	Annually	Annually	See IS GW monitoring plan	See IS GW monitoring plan	Attachment 10-1
Quarterly inspections						
Cap and cover	Inspection log	Quarterly	Annually	Visual or electronic indication of degradation or damage	Repair or replace as soon as practical	Section 10
Monuments	Inspection log	Quarterly	Annually			
Drainage systems	Inspection log	Quarterly	Annually			
Security/signs	Inspection log	Quarterly	Annually			
Temperature and pressure monitoring systems	Inspection log	Quarterly	Annually			
Monitoring wells	Inspection log	Quarterly	Annually			
LCDRS	Inspection log	Quarterly	Annually	Leachate present	Remove leachate	Section 10
25-year, 24-hour storm event inspection	Inspection log	w/in 48-hours	w/ Annual	Same as quarterly	Same as quarterly	Section 10.7
Temperature monitoring under the cap	Data logger and printout	Continuously	Quarterly	Exceeds 22 degrees C	Notify EPA within 48 hours; monitor TMP for H_2, PH_3, HCN	Attachment 10-2a; Section 1.4.1
Pressure monitoring under the cap	Data logger and printout	Continuously	Quarterly	Exceeds 27 inches Hg	Notify EPA within 48 hours; monitor for H_2, PH_3, HCN	Attachment 10-2a; Section 1.4.2
			Notify within 48 hours	Pressure under cap exceeds 27 inches of mercury absolute pressure continuously for 1 week and gas concentrations are detected.	Install gas treatment system and convert pressure monitoring system to gas collection w/in 60 days	Attachment 10-2a; Section 1.4.2
Cap drainage monitoring (not applicable Ponds 9E & 8E)	Inspection log	Annually	Annually	See Section 10.9 for decision tree	Evaluate/inspect/repair	Section 10.9
Topsoil monitoring (not applicable Ponds 9E & 8E)	Inspection log	Annually	Recorded only	5-inches below installed thickness at 50 percent of indicators	Add topsoil and revegetate	Section 10.10
Settlement monitoring						
During temporary fill/cap	Survey report	Monthly	Quarterly	Settlement less than 1-inch per year	Install final cap	Section 7.4.7
After final cap	Survey report	Annually	Annually	Exceeds acceptable rates	Engineering evaluation/repair	Sections 7.4.8 and 10.4
Visible subsidence or local seismic event	Survey report	As soon as practical	Annually	Exceeds acceptable rates	Engineering evaluation/repair	Section 10.4
RCRA regulations/plant operations	Post-closure Plan	60 days	60 days	Operational or regulation changes	Revise the Post-closure Plan	Section 10
Note: * Unless greater or lesser frequency is approved by EPA.						

ATTACHMENT A

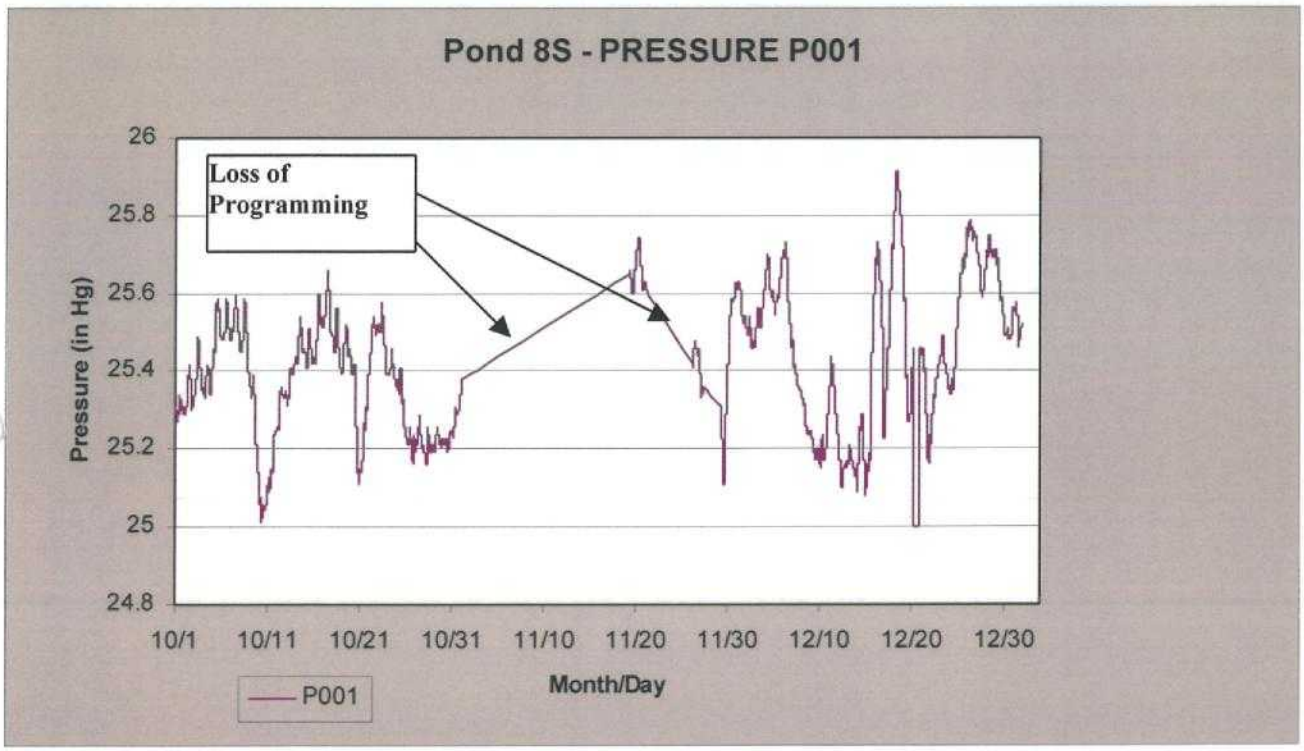
Temperature and Pressure Monitoring Results,
Quarterly Monitoring Equipment Inspection forms, and
Quarterly Groundcover Inspection forms

4th Quarter 2000

Pond 8S Post Closure Temperature and Pressure Monitoring Results

Summary: There is data loss on probes T001 and T003 from 11/1/00 at ~09:15 to the end of the quarter due to Data Recorder Module (DRM) failure. Both DRMs were sent to the manufacturer for repair and should be returned the first part of 2001. There is data loss on P001 and T002 from 11/1/00 at ~09:15 to 11/19/00 @ ~06:57 and from 11/21/00 at 10:00 to 11/26/00 at 07:57. This data loss was due to the DRMs losing their programming. Reprogramming the modules each time fixed the problem. Temperature probe T004 ran without failure during the 4th quarter 2000. All temperatures remained in acceptable bands with no incident of alarms.

Pressure Sensor P001:

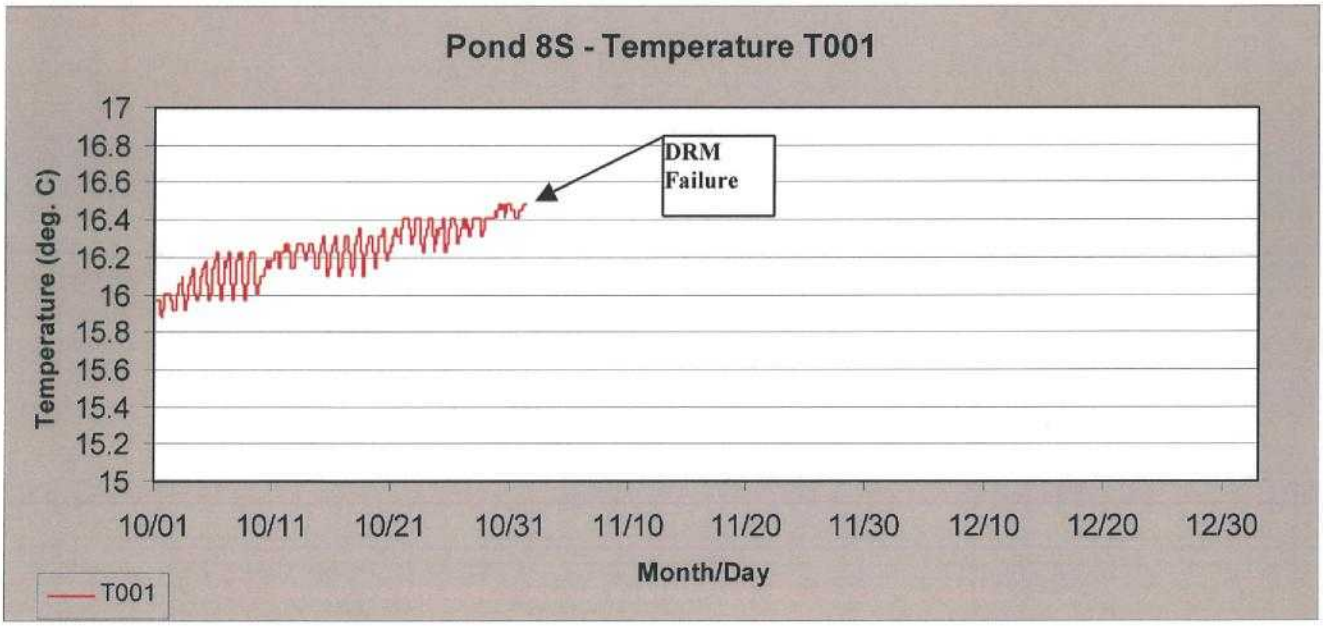


Summary Statistics

Number of readings: 13876
Maximum: 25.91
Minimum: 25.00
Mean: 25.47
Mode: 25.61
Median: 25.46

Comments: Pressure is variable across a narrow band. This is consistent with atmospheric pressures logged during this time. Spare factory calibrated pressure sensor installed on 11/01/2000 for annual calibration. Replaced sensor sent to factory for calibration and returned on 12/11/2000.

Temperature Sensor T001:

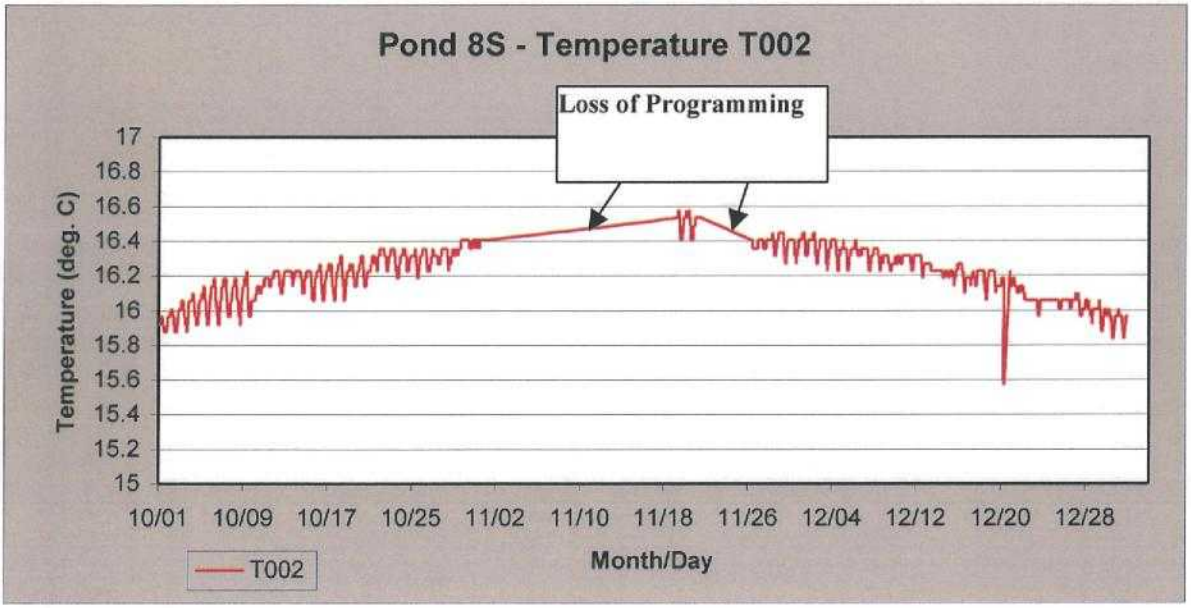


Summary Statistics

Number of readings: 4513
Maximum: 16.49
Minimum: 15.88
Mean: 16.23
Mode: 16.23
Median: 16.23

Comments: Temperature had risen slowly through a .61-degree range during the period from 10/1/00 to 11/1/00. Annual recalibration of temperature probe conducted on 10/31/2000.

Temperature Sensor T002:

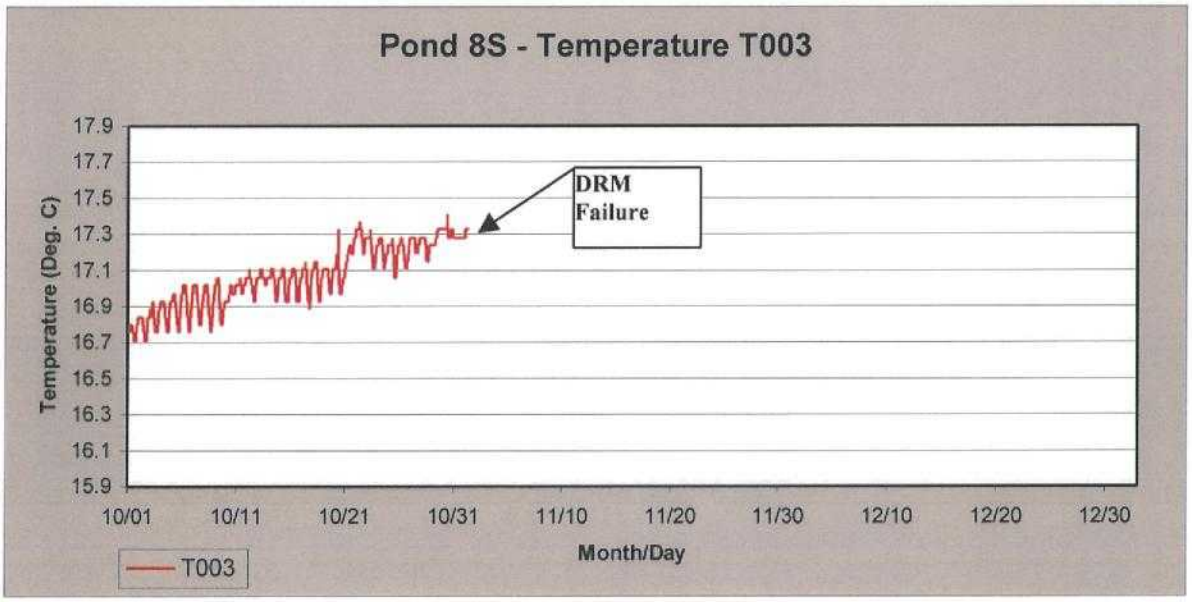


Summary Statistics

Number of readings: 14081
Maximum: 16.58
Minimum: 15.57
Mean: 16.29
Mode: 16.41
Median: 16.32

Comments: Temperature had risen until the mid part of November and then started to decrease continually towards the end of the 4th quarter 2000. Temperatures changed within a 1.01-degree range. Annual recalibration of temperature probe conducted on 10/31/2000.

Temperature Sensor T003:

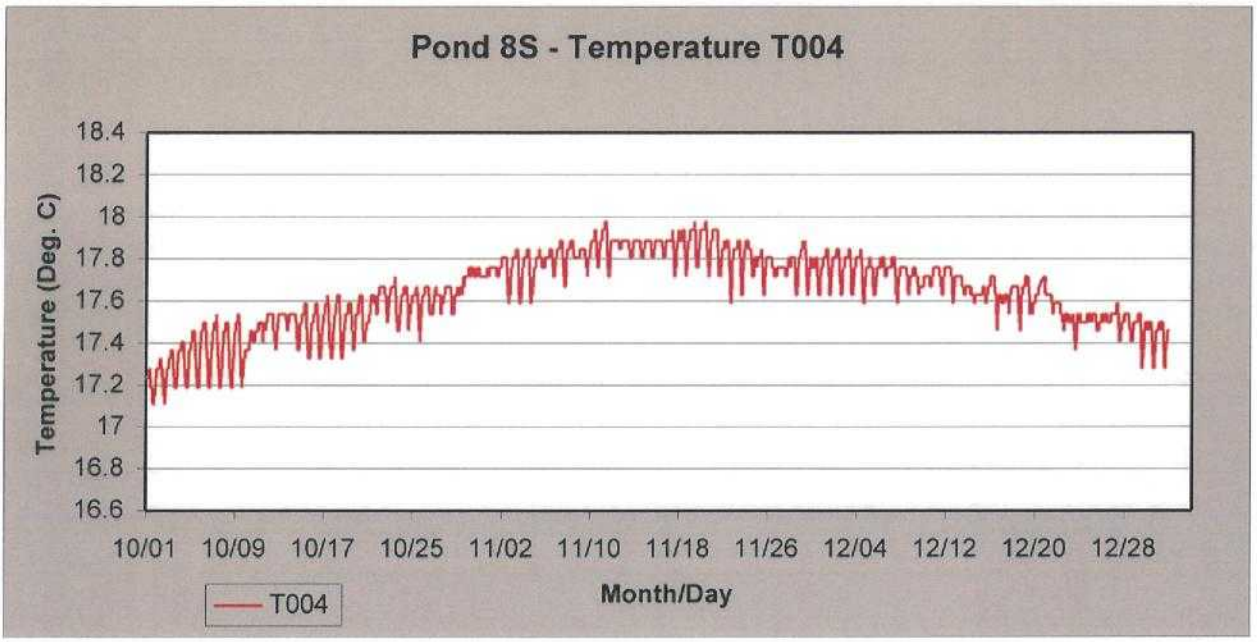


Summary Statistics

Number of readings: 4517
Maximum: 17.41
Minimum: 16.71
Mean: 17.07
Mode: 17.28
Median: 17.06

Comments: Temperature had risen slowly through a .70-degree range from the period 10/1/00 to 11/1/00. Annual recalibration of temperature probe conducted on 10/30/2000.

Temperature Sensor T004:



Summary Statistics

Number of readings: 13163
Maximum: 17.98
Minimum: 17.11
Mean: 17.64
Mode: 17.76
Median: 17.67

Comments: Temperature had risen until the mid part of November and then started to decrease continually towards the end of the 4th quarter 2000. Temperatures changed within a .87-degree range. Annual recalibration of temperature probe conducted on 10/31/2000.

Pond 8S Post Closure Inspection Record Form
Quarterly Monitoring Equipment Inspection

Date: 12/8/00 Time: 10:18 am

Inspector: VALERIE BERTI Signature: Valerie Berti

Inspection Item **Inspection Result**
** Requires detailed explanation*

1. **Temperature Monitoring Wells (TT001, TT002, TT003, TT004)**

   Temperature well covers intact and locked? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   All lids are locked; however, lids TT003 + TT002 are not seated all the way down.

   Note: Boxes need not be seated or sealed.

2. **Groundwater Monitoring Wells (155, 156, 157, 158, and 183):**

   Are barrier poles intact? Acceptable ✓ *Unacceptable ____

   Are well covers intact and locked? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   Well #183 is missing the #3 stiker on it.

3. **Pressure Monitoring Standpipe (P001)**

Standpipe intact? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Standpipe in good condition.

4. **Soil Gas Monitoring Wells (GM-1, GM-2, GM-3, GM-4, GM-5, GM-6, GM-7, GM-8, GM-9, GM-10)**

Well covers intact and locked? Acceptable ✓ *Unacceptable ____

Have quarterly monitoring samples been taken and logged? Yes ✓ *No ____

Explain Unacceptable Condition:

Qtrly samples were taken the first part of December.

5. **Temperature & Pressure Alarm Panel**

Alarm sound and red light flash when tested? Acceptable ✓ *Unacceptable ____

Panel in acceptable condition? Acceptable ✓ *Unacceptable ____

Quarterly data downloaded and database updated? Yes ✓ *No ____

Explain Unacceptable Condition:

All data is downloaded to date. The remainder of the quarters data will be downloaded on Jan. 1, 2001. T001 & T003 DRM's are at manufactures for servicing; therefore no data is being collected for these two temperature wells.

6. **Temperature and Pressure Data Logger Panel**

Data logger panel condition? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Panel appears in good condition.

7. **Settlement Monuments**

Settlement monuments clear and accessible? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Settlement Monuments are accessible and clear of debris.

8. **Are any repairs or response required?** *Yes ____ No ✓

If a response is required attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item.

a. Inspection item receiving repair —
b. Date and Time of completion —
c. Are repairs acceptable? Yes — No —
d. Inspector —
e. Signature —

Pond 8S Post Closure Inspection Record Form

☑ Quarterly Groundcover Inspection (4th Qtr. 2000)

☐ Storm Event Inspection

Date: 12/8/00 Time: 10:18 am

Inspector: VALERIE A. BERTI Signature: Valerie A. Berti

Inspection Item | **Inspection Result** (* Requires detailed explanation)

1. **Vegetative Condition (Grass and Ground Cover)**

Is the grass living (root system intact)? Acceptable ✓ *Unacceptable ____

Is there uniform coverage (no bare spots)? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Uniform coverage on pond cap. Plants are from 2-4 ft. tall. No new growth since 3rd quarter.

2. **Vegetative Soil Conditions**

No excessive soil erosion? Acceptable ✓ *Unacceptable ____

No excessive ruts or potholes present? Acceptable ✓ *Unacceptable ____

No rodent or insect activity

(i.e., fresh soil piles or holes,...) Acceptable ____ *Unacceptable ✓

Explain Unacceptable Condition:

~10 feet east of TT001 there is a fairly new hole a few inches wide with mice droppings. Some holes in this area were covered last quarter. Mice traps are suggested.

3. **Storm Water Management**

Are the swales clear of sediment and debris? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Tumbleweeds were cleared from swales. Small amount of gravel in swales, but not enough to inhibit water flow.

4. **Slopes**

No sloughing or tension cracking? Acceptable ✓ *Unacceptable ____

No excessive channels or washouts? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

No new evidence of erosion on the slopes since 3rd Qtr 2000.

5. **Cap Drainage Monitoring (Annual Check to be performed in 3rd Quarter)**

Is this the 3rd quarter of the year? *Yes ____ No ✓

If 3rd quarter measure and record volume in subdrain outlet #1 N/A

If 3rd quarter measure and record volume in subdrain outlet #2 N/A

Total Volume N/A

Comments:

N/A = Not applicable

6. **Cap Erosion Monitoring**
Perform and record the following topsoil loss measurements

Topsoil Marker	Measurement (inches below nominal installed level)
1	½"
2	0"
3	1"
4	¼"
5	0"
6	¼"
7	¼" → Missing a pole for easy locating.

Are more then 4 of the above topsoil measurements at 5 inches or more below the installed thickness?

*Yes ____ No ✓

Comments:

Since 3rd Qtr 2000, the only Topsoil Marker with a change in erosion level was #3, which went from ½" to ~1".

7. **Security Systems**

Fencing continuous and intact? Acceptable ✓ *Unacceptable ____

Gate locks present and functional? Acceptable ✓ *Unacceptable ____

Monitoring camera functional? Acceptable ✓ *Unacceptable ____

Signs posted and visible from all approaches that read "Danger- Unauthorized Personnel Keep Out" in English only? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Had to clear large weeds from "Danger-.." sign.

Security systems are intact.

8. **Are any repairs or response required?** *Yes _____ No ✓

If a response is required, attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item:

a. Inspection item receiving repair _____

b. Date and Time of completion _____

c. Are repairs acceptable? Yes _____ No _____

d. Inspector _____

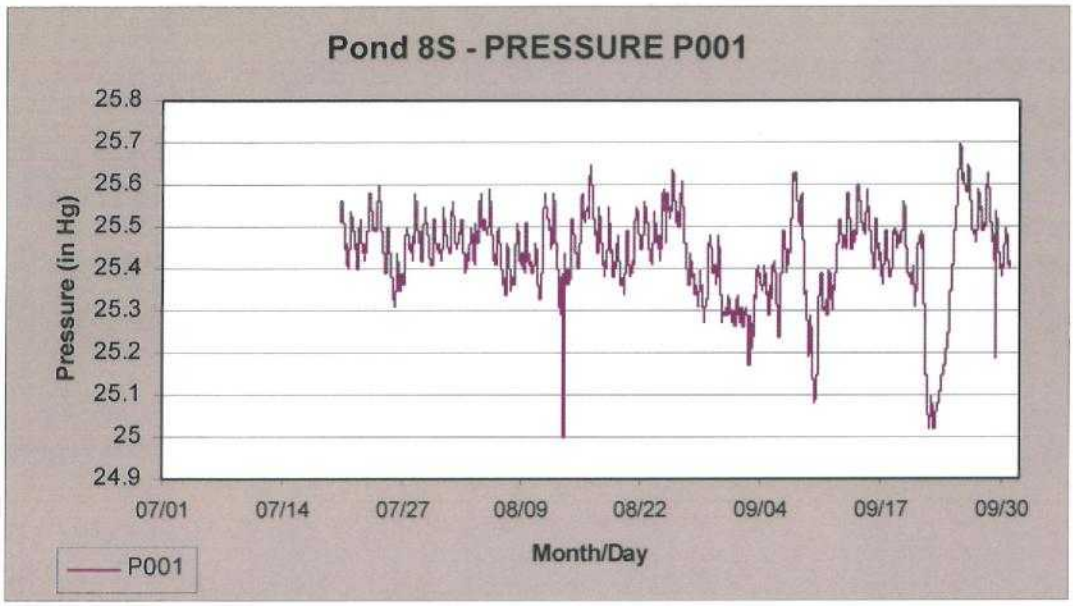
e. Signature _____

3rd Quarter 2000

Pond 8S Post Closure Temperature and Pressure Monitoring Results

Summary: All temperatures remained in acceptable bands with no incident of alarms. There is data loss on pressure from start of quarter to July 17th and all temperatures from start of quarter to July 10th and 11th, due to a loose ground wire. The follow up programming issues were resolved by July 18th, 2000. All data from that date is complete and without known errors.

Pressure Sensor P001:



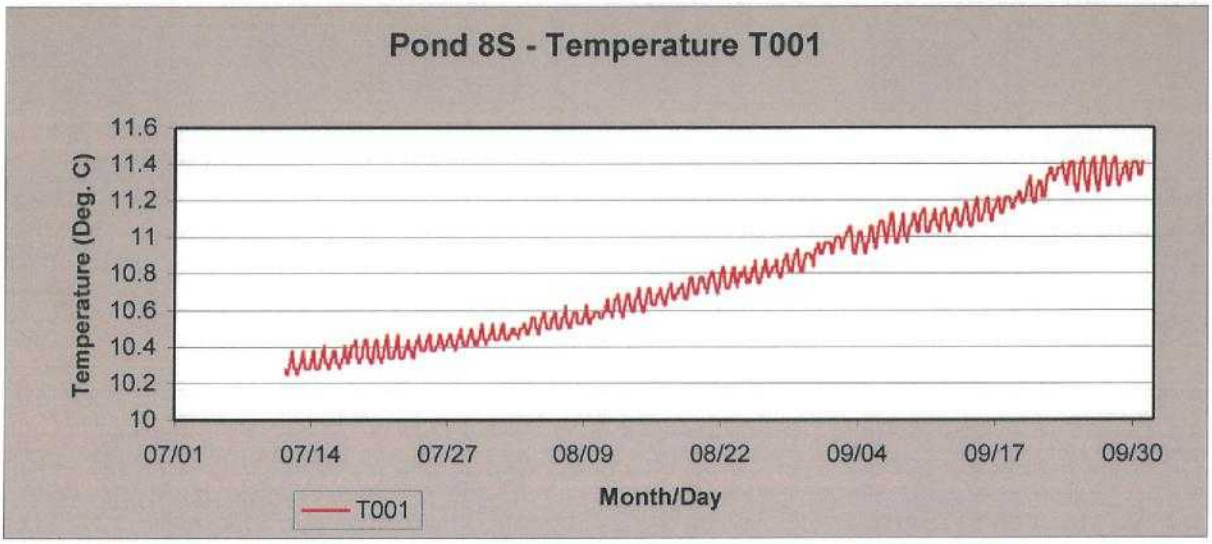
Summary Statistics

Number of readings: 10462
Maximum: 25.70
Minimum: 25.00
Mean: 25.43
Mode: 25.46
Median: 25.45

Comments: Pressure is variable across a narrow band. This is consistent with atmospheric pressures logged during this time.

3rd Quarter 2000 (Cont.)

Temperature Sensor T001:



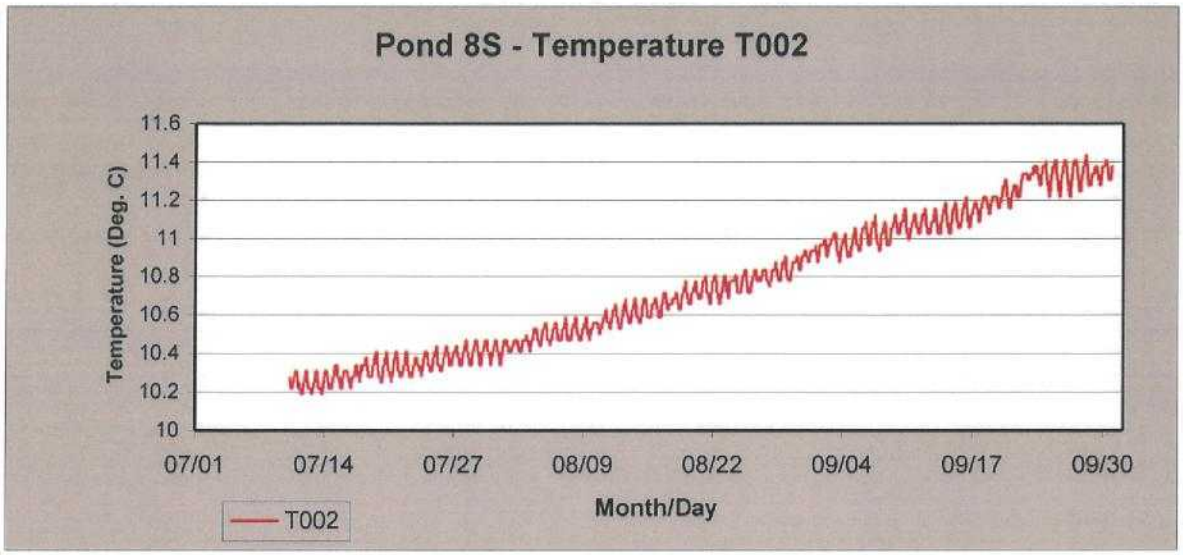
Summary Statistics

Number of readings: 11695
Maximum: 11.44
Minimum: 10.25
Mean: 10.79
Mode: 10.41
Median: 10.75

Comments: Temperature has risen slowly through a 1.2-degree range.

3rd Quarter 2000 (Cont.)

Temperature Sensor T002:



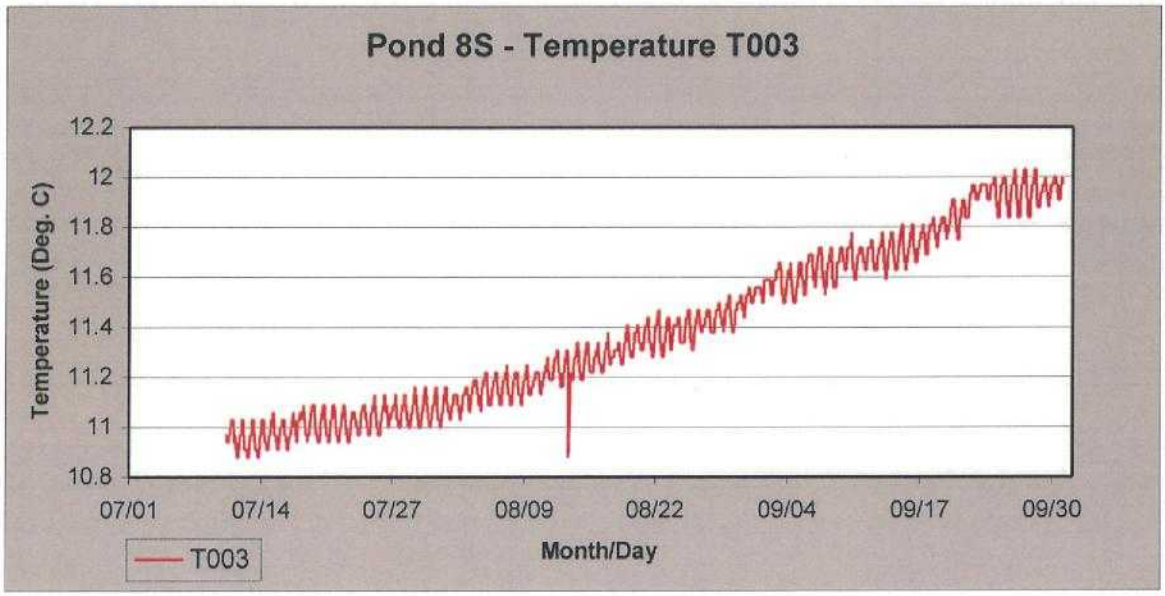
Summary Statistics

Number of readings: 11837
Maximum: 11.44
Minimum: 10.19
Mean: 10.75
Mode: 10.47
Median: 10.72

Comments: Temperature has risen slowly through a 1.2-degree range.

3rd Quarter 2000 (Cont.)

Temperature Sensor T003:



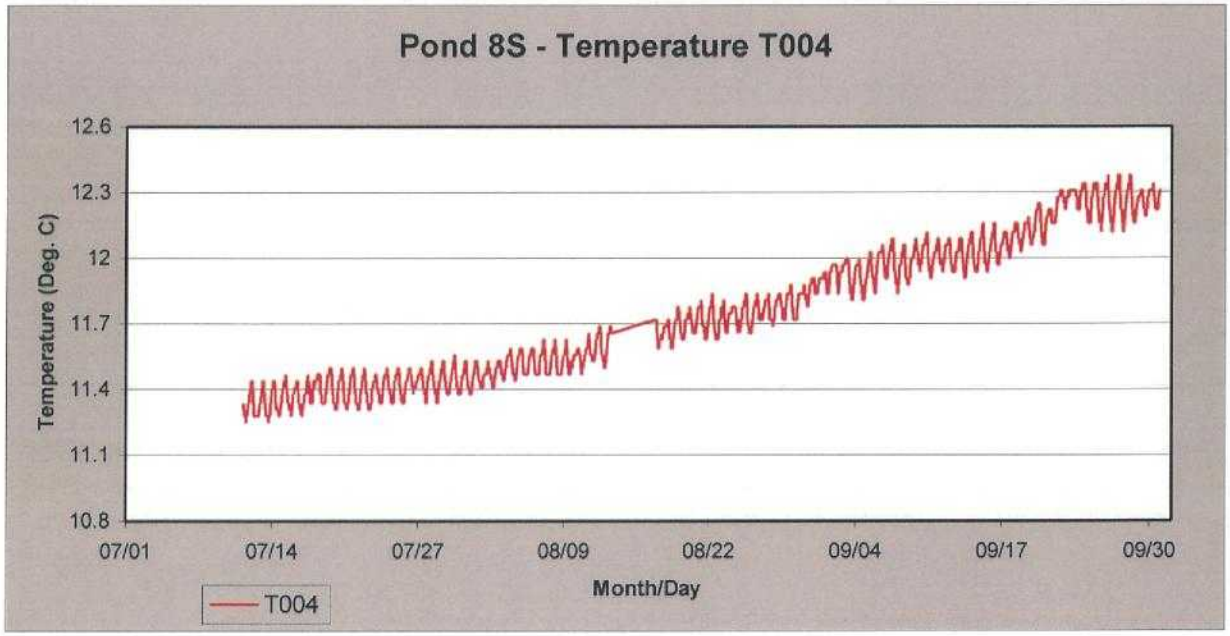
Summary Statistics

Number of readings: 11837
Maximum: 12.03
Minimum: 10.88
Mean: 11.39024
Mode: 11.03
Median: 11.34

Comments: Temperature has risen slowly through a 1.2-degree range.

3rd Quarter 2000 (Cont.)

Temperature Sensor T004:



Summary Statistics

Number of readings: 11178
Maximum: 12.38
Minimum: 11.25
Mean: 11.75
Mode: 11.47
Median: 11.72

Comments: Temperature has risen slowly through a 1.2-degree range.

Pond 8S Post Closure Inspection Record Form
Quarterly Monitoring Equipment Inspection

Date: 9/30/00 Time: 7:30 Inspector: U. B.

Signature: Valerie Berti

Inspection Item | **Inspection Result**
** requires detailed explanation*

1. **Temperature Monitoring Wells (TT001, TT002, TT003, TT004)**

   Temperature well covers intact and locked? Acceptable ✓ *Unacceptable ___

   Explain Unacceptable Condition:

   Everything appears to be intact.

2. **Pressure Monitoring Standpipe (P001)**

   Standpipe intact ~~and locked~~? Acceptable ✓ *Unacceptable ___

   Explain Unacceptable Condition:

   Pressure monitoring standpipe in good condition.

3. **Soil Gas Monitoring Wells (GM-1,GM-2, GM-3, GM-4, GM-5, GM-6, GM-7, GM-8, GM-9, GM-10)**

Well covers intact and locked? Acceptable ✓ *Unacceptable ____

Have quarterly monitoring samples been taken and logged? Yes ✓ *No ____ (AB)

Explain Unacceptable Condition:

Rubber liner is slightly exposed by ~~ground~~ gas monitoring point water well GM8. Need to watch - if additional material becomes exposed, may need to add cover at this area.

4. **Temperature & Pressure Alarm Panel**

Alarm sound and red light flash when tested? Acceptable ✓ *Unacceptable ____

panel in acceptable condition? Acceptable ✓ *Unacceptable ____

Quarterly data downloaded and database updated? Yes ____ *No ✓

Explain Unacceptable Condition:

* Not end of quarter yet. Will download data on 10/1/00.

5. **Temperature and Pressure Data Logger Panel**

Data logger panel condition? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Panel appears in good condition.

6. **Settlement Monuments**

Settlement monuments clear and accessible? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

① SM #2 - possible erosion around base. Exposed 2" on SE side.

② SM #5 3" to 4" possible settlement.

Note: These observations were incorrect. Poured concrete bases were in "as built" condition, as confirmed by Rob Hartman @ FMC.

7. **Are any repairs or response required?** *Yes ____ No ✓

If a response is required attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item.

a. Inspection item receiving repair N/A

b. Date and Time of completion N/A

c. Are repairs acceptable Yes ____ No ____ N/A ✓

d. Inspector N/A

e. Signature N/A

N/A = Not applicable.

Pond 8S Post Closure Inspection Record Form

☑ Quarterly Groundcover Inspection

☐ Storm Event Inspection

Date: 9/30/00 Time: 7:30 am

Inspector: S.B. (VALERIE BERTI) Signature: Valerie Berti

Inspection Item	Inspection Result * *Requires detailed explanation*

1. Groundwater Monitoring Wells (155, 156, 157, 158, and 183):

Are barrier poles intact? Acceptable ✓ *Unacceptable ____

Are well covers intact and locked? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Groundwater Well #183 is missing the #3 stiker.

2. Vegetative Condition (Grass and Ground Cover)

Is the grass living (root system intact)? Acceptable ✓ *Unacceptable ____

Is there uniform coverage (no bare spots)? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Uniform coverage on pond cap. Plants are from 2-4 ft. tall.

3. Vegetative Soil Conditions

No excessive soil erosion? Acceptable ✓ *Unacceptable ____

No excessive ruts or potholes present? Acceptable ✓ *Unacceptable ____

No rodent or insect activity

(I.e., fresh soil piles or holes,...) Acceptable ____ *Unacceptable ✓

Explain Unacceptable Condition:

Near Sm #2 there is evidence of mice + small holes @ the base. Minor erosion. Base is exposed. East of TT001 there are two ~~gopher~~ rodent (VAB) holes. (~10 ft apart.) 30' west of TT004 evidence of droppings. Holes indicated above are only a few inches wide.

4. Storm Water Management

Are the swales clear of sediment and debris? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

There is minor quantities of gravel in the swale; however flow is not affected.

5. Slopes

No sloughing or tension cracking? Acceptable ✓ *Unacceptable ____

No excessive channels or washouts? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Near the south cap there is some soil exposed giving a potential for gully to form. I will keep an eye on.

6. **Cap Drainage Monitoring (Annual Check to be performed in 3rd Quarter)**

Is this the 3rd quarter of the year? *Yes ✓ No ____

If 3rd quarter measure and record volume in subdrain outlet #1 0

If 3rd quarter measure and record volume in subdrain outlet #2 0

Total Volume 0

Comments:

All values in the subdrain outlets were zero.

7. **Cap Erosion Monitoring**

Perform and record the following topsoil loss measurements

Topsoil Marker	Measurement (inches below nominal installed level)
1	1/2"
2	0"
3	1/2"
4	1/4"
5	0"
6	1/4"
7	1/4"

Are more then 4 of the above topsoil measurements at 5 inches or more below the installed thickness?

*Yes ____ No ✓

Comments:

None

(HAB)

8 ~~X~~ **Security Systems**

Fencing continuous and intact? Acceptable X *Unacceptable ____

Gate locks present and functional? Acceptable X *Unacceptable ____

Monitoring camera functional? Acceptable X *Unacceptable ____

Signs posted and visible from all approaches that read "Danger- Unauthorized Personnel Keep Out" in English only? Acceptable X *Unacceptable ____

Explain Unacceptable Condition:

Security systems are intact.

9. **Are any repairs or response required?** *Yes ____ No ✓

If a response is required, attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item:

a. Inspection item receiving repair None

a. Date and Time of completion N/A

b. Are repairs acceptable? Yes ____ No ____ N/A

c. Inspector N/A

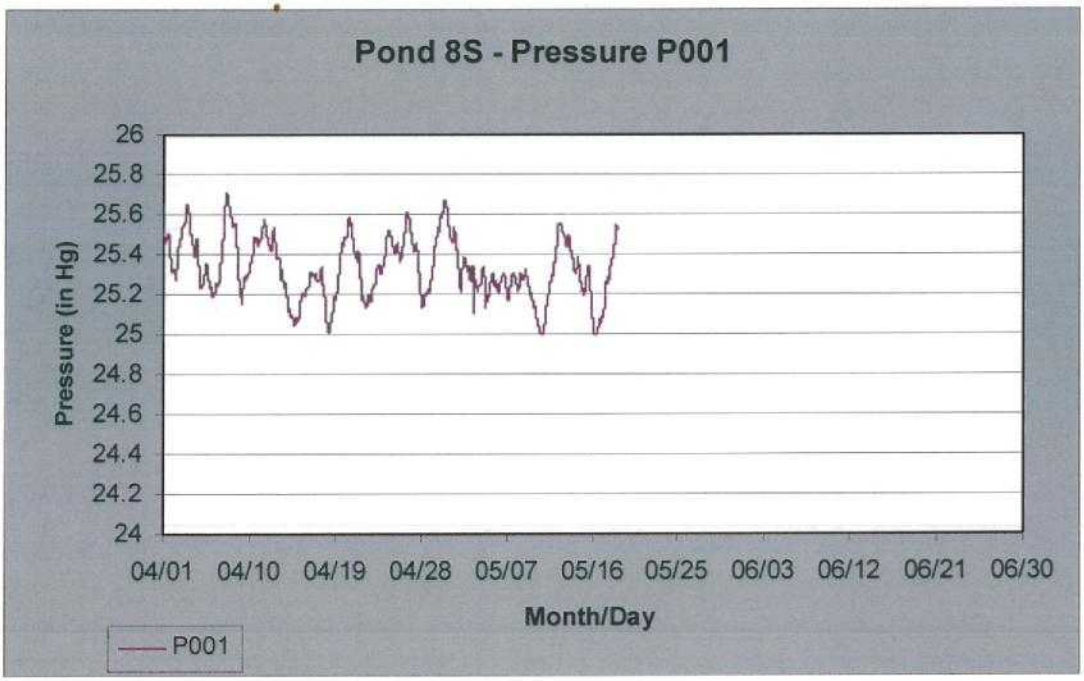
d. Signature N/A

2nd Quarter 2000

Pond 8S Post Closure Temperature and Pressure Monitoring Results

Summary: All temperatures and pressure remained in acceptable bands. Data recorded from 01 April 2000 to 18 May 2000. Data from May 19th to end of quarter was lost due to a loose ground wire. The wire caused surges that erased the programming and data from the DRM's in the panel at the pond. The problem was corrected and the system is working as designed.

Pressure Sensor P001:



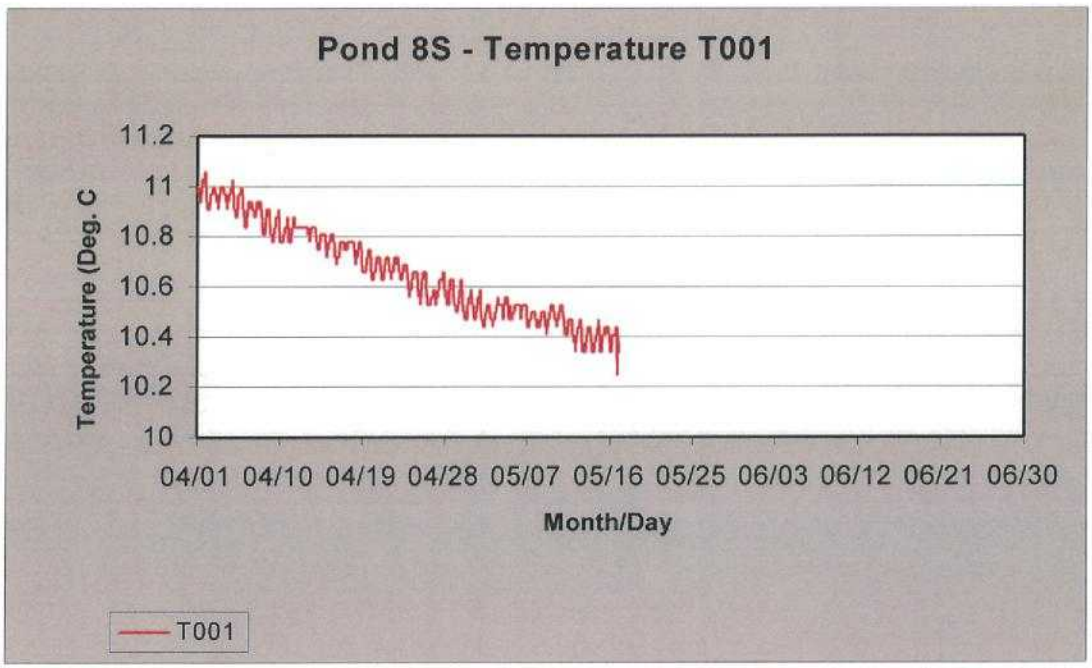
Summary Statistics

Number of readings: 6855
Maximum: 25.71
Minimum:25
Mean: 25.32864
Mode: 25.29
Median: 25.31

Comments: Pressure fluctuated within a small band and was consistent with local barometric pressure during the same period. There is no indication of any pressure abnormalities.

2nd Quarter 2000 (Cont.)

Temperature Sensor T001:



Summary Statistics:

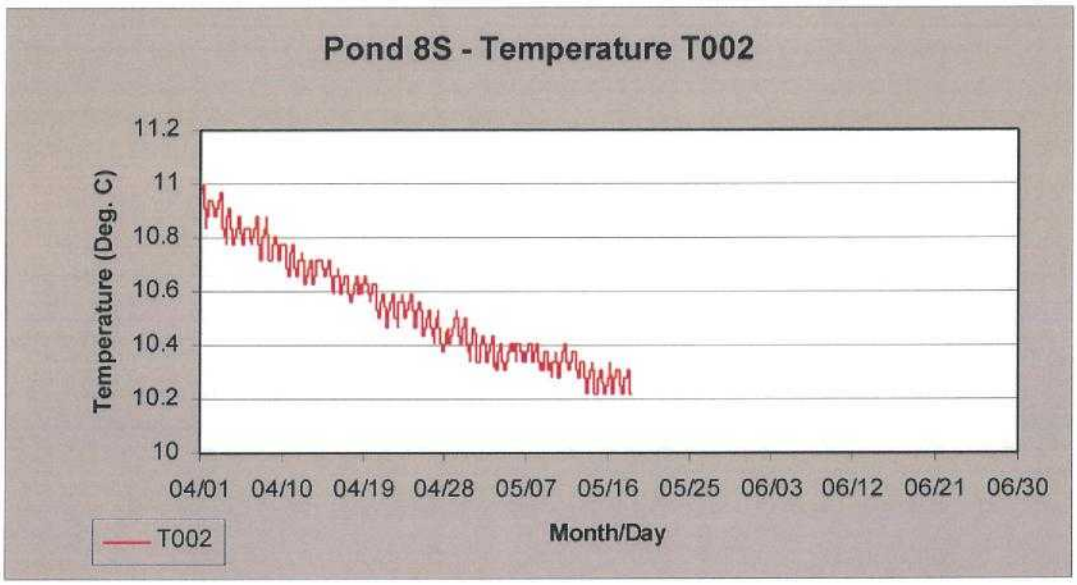
Number of Readings: 6495
Maximum: 11.06
Minimum: 10.25
Mean: 10.655
Median: 10.63
Mode: 10.53

Comments:

Temperature decline this quarter is consistent with the other 3 temperature legs. There is a gap of no data from May 18th to the end of the quarter. This is due to a loose grounding wire on the pressure probe connections causing surges, which have led to all DRM's loosing data and programming. The problem has been corrected.

2nd Quarter 2000 (Cont.)

Temperature Sensor T002:



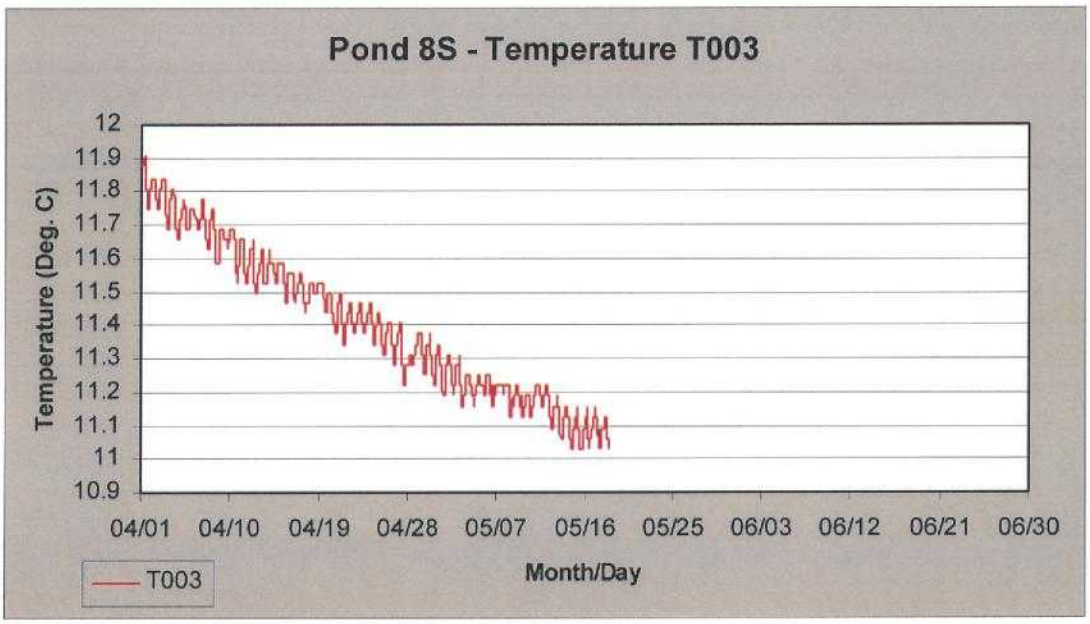
Summary Statistics:

Number of readings: 6851
Maximum: 11
Minimum: 10.22
Mean: 10.54
Median: 10.5
Mode: 10.34

Comments: Temperature decline this quarter is consistent with the other 3 temperature legs. There is a gap of no data from May 18th to the end of the quarter. This is due to a loose grounding wire on the pressure probe connections causing surges, which have led to all DRM's loosing data and programming. The problem has been corrected.

2nd Quarter 2000 (Cont.)

Temperature Sensor T003:



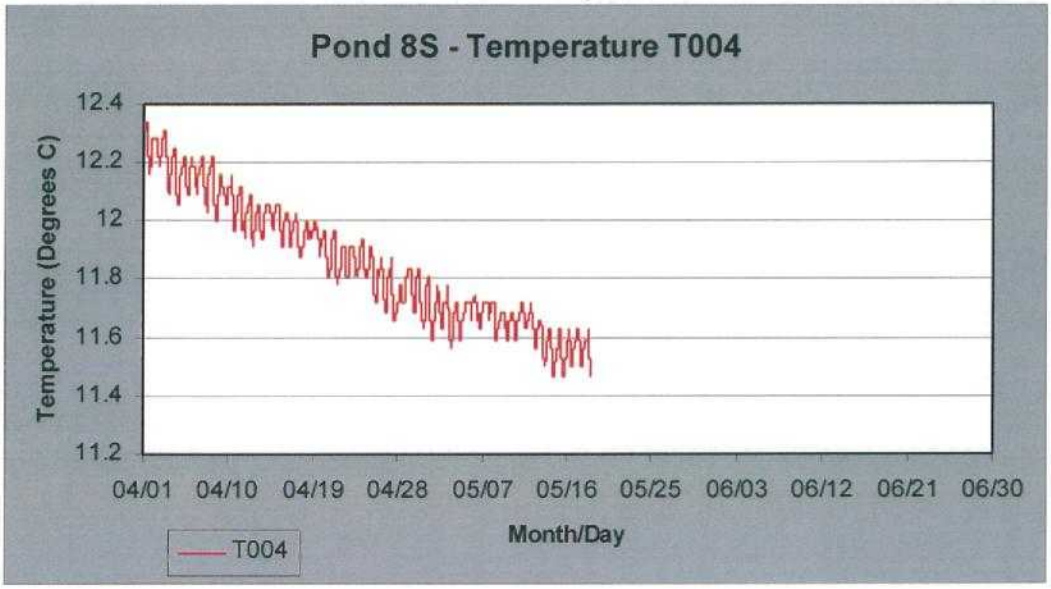
Summary Statistics:

Number of readings: 6851
Maximum: 11.91
Minimum: 11.03
Mean: 11.41
Median: 11.38
Mode: 11.22

Comments: Temperature decline this quarter is consistent with the other 3 temperature legs. There is a gap of no data from May 18th to the end of the quarter. This is due to a loose grounding wire on the pressure probe connections causing surges, which have led to all DRM's loosing data and programming. The problem has been corrected.

2nd Quarter 2000 (Cont.)

Temperature Sensor T004:



Summary Statistics:

Number of readings: 6851
Maximum: 12.34
Minimum: 11.47
Mean: 11.858
Median: 11.84
Mode: 11.72

Comments: Temperature decline this quarter is consistent with the other 3 temperature legs. There is a gap of no data from May 18th to the end of the quarter. This is due to a loose grounding wire on the pressure probe connections causing surges, which have led to all DRM's loosing data and programming. The problem has been corrected.

Pond 8S Post Closure Inspection Record Form
Quarterly Monitoring Equipment Inspection

Date: 07/05/2000 Time: 12:35 Inspector: Joel S. Shokes

Signature: Joel S. Shokes

Inspection Item **Inspection Result**
** requires detailed explaination*

1. **Temperature Monitoring Wells (TT001, TT002, TT003, TT004)**

   Temperature well covers intact and locked? Acceptable X *Unacceptable ____

   Explain Unacceptable Condition:

   OILED ALL LOCKES. Exposure to elements makes them hard to operate once a quarter. ALL contacts appear intact inside boxes.

2. **Pressure Monitoring Standpipe (P001)**

   Standpipe intact and locked? Acceptable X *Unacceptable ____

   Explain Unacceptable Condition:

   Pressure monitoring standpipe is in excellent condition.

3. ~~Soil Gas Monitoring Wells (GM-1,GM-2, GM-3, GM-4, GM-5, GM-6, GM-7, GM-8, GM-9,~~ GM-10)

Well covers intact and locked? Acceptable X *Unacceptable ____

~~Have quarterly monitoring samples been taken and logged?~~ Yes ____ *No X

Explain Unacceptable Condition:

GAS samples are scheduled.

4. **Temperature & Pressure Alarm Panel**

~~Alarm sound and red light flash when tested?~~ Acceptable X *Unacceptable ____

panel in acceptable condition? Acceptable X *Unacceptable ____

Quarterly data downloaded and database updated? Yes X *No ____

Explain Unacceptable Condition:

Panel is in good condition TOP 3 Digital meter is working.

5. **Temperature and Pressure Data Logger Panel**

Data logger panel condition? Acceptable X *Unacceptable ____

Explain Unacceptable Condition:

Panel is in good shape.

6. **~~Settlement Monuments~~**

~~Settlement monuments clear and accessible?~~ ~~Acceptable~~ X *~~Unacceptable~~ _____

Explain Unacceptable Condition:

Similar to the cap erossion markers, these smaller markers are difficult to find in the vegitative covering. I will look into a flag marking system for future inspections.

7. **~~Are any repairs or response required?~~** *Yes _____ No X

If a ~~response~~ is required attach a copy of the work order and/or details of the maintenance and repair ~~completed. Do this for each item as needed. Then complete the following for each item.~~

a. ~~Inspection~~ item receiving repair NONE

b. ~~Date and Time of completion~~ N/A

c. Are ~~repairs acceptable~~ Yes N/A No _____

d. ~~Inspector~~ N/A

e. ~~Signature~~ N/A

Pond 8S Post Closure Inspection Record Form

☑ Quarterly Groundcover Inspection

☐ Storm Event Inspection

Date: 07/05/2000 Time: 12:35

Inspector: Joel S. Shokes Signature: Joel S. Shokes

Inspection Item **Inspection Result**

** requires detailed explaination*

1. **GroundWater Monitoring Wells (155, 156, 157, 158, and 183):**

   Are barrier poles intact? Acceptable X *Unacceptable ____

   Are well covers intact and locked? Acceptable X *Unacceptable ____

   Explain Unacceptable Condition:

   NONE.

2. **Vegetative Condition (Grass and Ground Cover)**

   Is the grass living (root system intact)? Acceptable X *Unacceptable ____

   Is there uniform coverage(no bare spots)? Acceptable X *Unacceptable ____

   Explain Unacceptable Condition:

   Uniform coverage. Most plants between 2-4 ft tall. There are no bare spots. Spacing between plants is thinner in some areas leaving about 10% uncovered. Given the profuse growth this season it should be 100% in second season.

3. Vegetative Soil Conditions

No excessive soil erosion? Acceptable X *Unacceptable ____

No excessive ruts or potholes present? Acceptable X *Unacceptable ____

No rodent or insect activity

(i.e., fresh soil piles or holes, ...) Acceptable X *Unacceptable ____

Explain Unacceptable Condition:

The soil is supporting lush plant growth. The plant top appear to be providing a rain break. The soil shows no signs of errosion. There are grasshoppers and butterflies but no signs of rodents, birds or other animal life.

4. Storm Water Management

Are the swales clear of sediment and debris? Acceptable X *Unacceptable ____

Explain Unacceptable Condition:

Some minor amounts of gravel has washed into the swale, not enough to affect flow. These will be swept out ~~the~~ before next quarter for good housekeeping.

5. Slopes

No sloughing or tension cracking? Acceptable X *Unacceptable ____

No excessive channels or washouts? Acceptable X *Unacceptable ____

Explain Unacceptable Condition:

Slopes are in good condition with no detectible changes.

6. **Cap Drainage Monitoring (Annual Check to be performed in 3rd Quarter)**

Is this the 3rd quarter of the year? *Yes ____ No X

If 3rd quarter measure and record volume in subdrain outlet #1 N/A

If 3rd quarter measure and record volume in subdrain outet #2 ____

Total Volume ____

Comments:

NONE.

7. **Cap Erosion Monitoring**

Perform and record the following topsoil loss measurements

Topsoil Marker	Measurement (inches below nominal installed level)
1	1/4"
2	Ø
3	1/4"
4	Ø "
5	1/4"
6	1/4"
7	1/4"

Are more then 4 of the above topsoil measurements at 5 inches or more below the installed thickness ?

*Yes ____ No X

Comments:

These markers have become very difficult to find in the new foliage. I will look into flag poles for locators for future inspections.

8. **Security Systems**

Fencing continous and intact? Acceptable X *Unacceptable _____

Gate locks present and functional? Acceptable X *Unacceptable _____

Monitoring camera functional? Acceptable X *Unacceptable _____

Signs posted and visible from all approaches that read "Danger- Unauthorized Personnel Keep Out" in English only? Acceptable X *Unacceptable _____

Explain Unacceptable Condition:

Security systems are intact.

9. **Are any repairs or response required?** *Yes _____ No X

If a response is required, attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item:

a. Inspection item receiving repair NONE

a. Date and Time of completion N/A

b. Are repairs acceptable? Yes N/A No _____

c. Inspector N/A

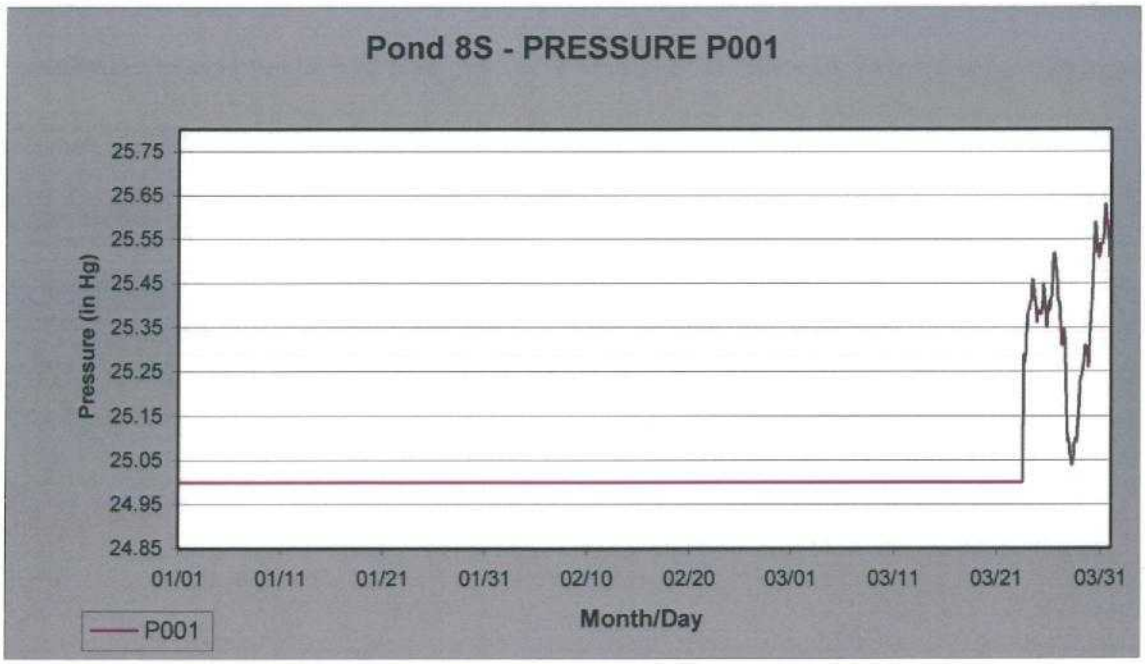
d. Signature N/A

1st Quarter 2000

Pond 8S Post Closure Temperature and Pressure Monitoring Results

Summary: All Temperatures remained in acceptable bands with no incidence of alarms. The Pressure gage for P001 was replaced and is working according to plan. The temperature module suffered a Y2K glitch and had dates from 1989. The data is corrected for date and the DRM has been reprogrammed to the correct date.

Pressure Sensor P001:



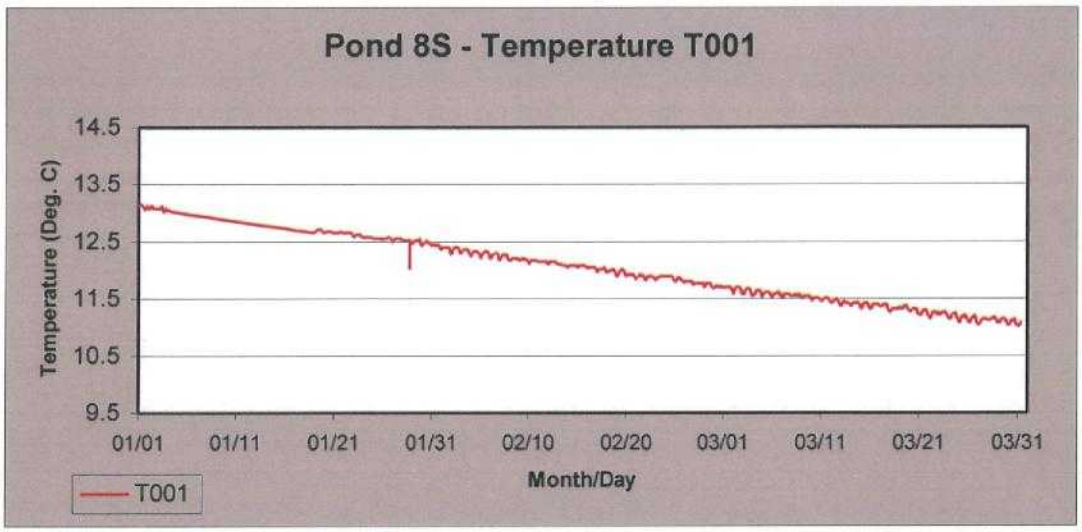
Summary Statistics

Number of readings: 13007
Maximum: 25.63
Minimum:25
Mean: 25.034
Mode: 25.0
Median: 25.0

Comments: Pressure readings initially stuck on 25 due to incorrect pressure gage. The correct gage was installed on 3/23/00 at 13:50. Pressure is now responding according to design.

1st Quarter 2000 (Cont.)

Temperature Sensor T001:



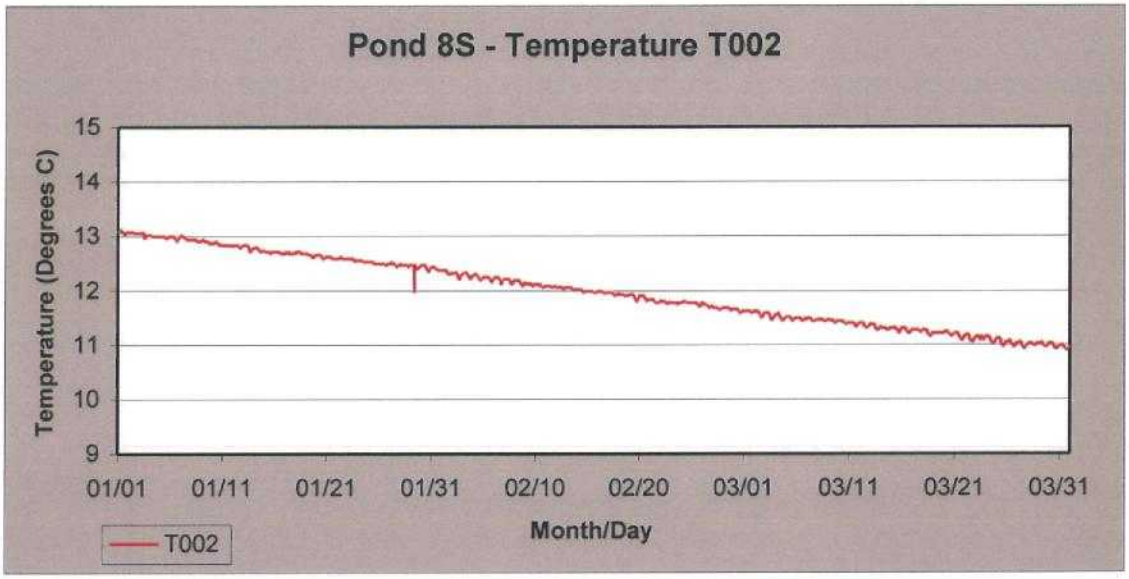
Summary Statistics:

Number of Readings: 10815
Maximum: 13.16
Minimum: 11.03
Mean: 11.9284
Median: 11.91
Mode: 11.91

Comments: Temperature decline this quarter is consistent with the other 3 temperature legs. There is a gap of no data from 04 JAN 2000 to 19 JAN 2000. This is from reprogramming needed due to an Y2K glitch that reset the date in the DRM to 1989. The DRM has been reprogrammed and the data corrected for dates.

1st Quarter 2000 (Cont.)

Temperature Sensor T002



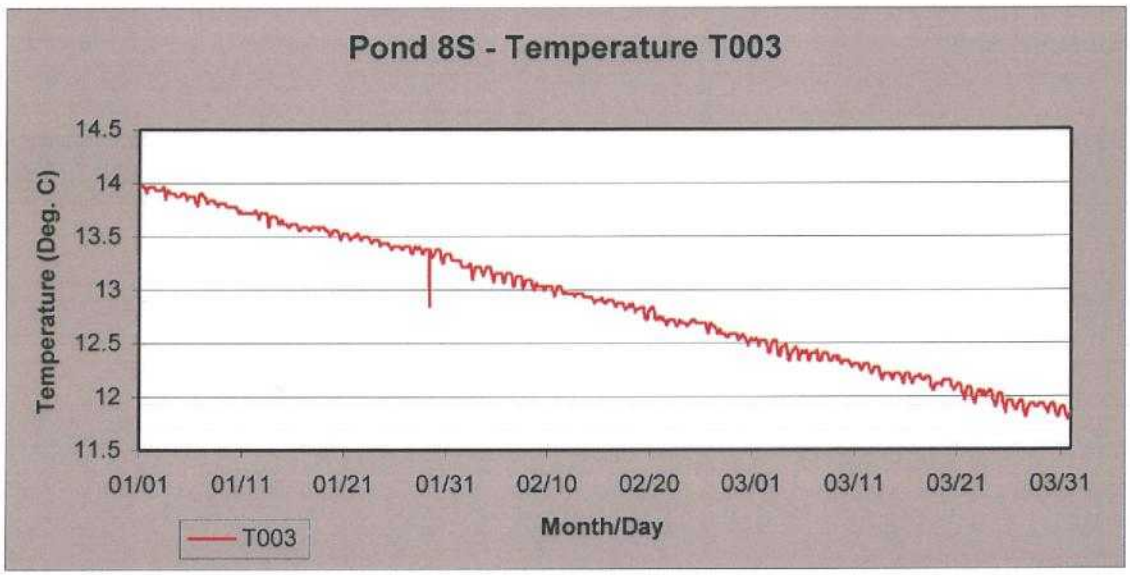
Summary Statistics:

Number of readings: 13007
Maximum: 13.13
Minimum: 10.91
Mean: 11.9998
Median: 12
Mode: 11.78

Comments: Temperature decline this quarter is consistent with the other 3 temperature legs.

1st Quarter 2000 (Cont.)

Temperature Sensor T003



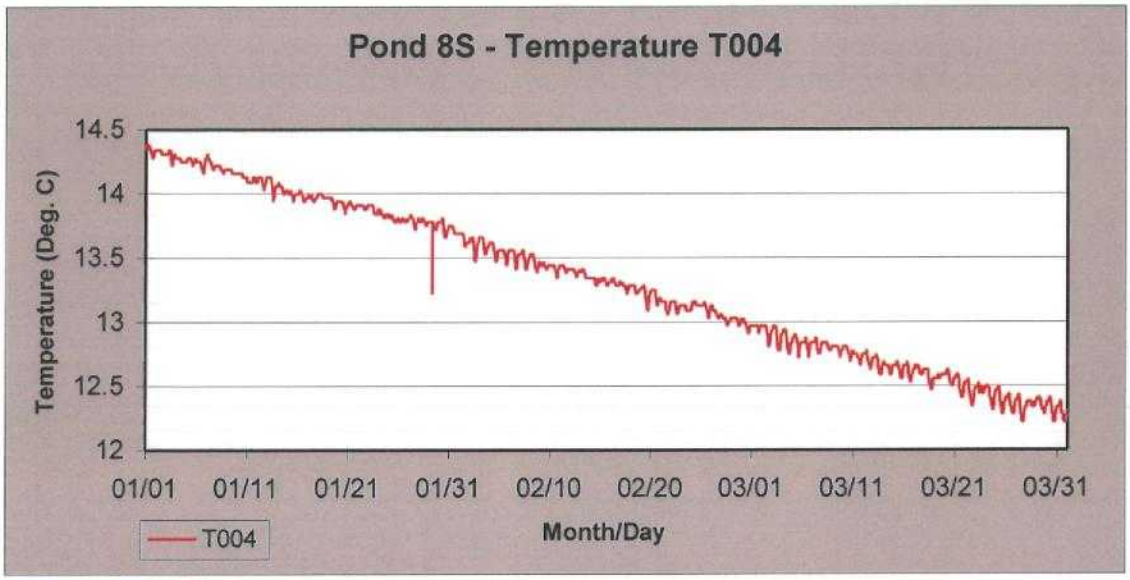
Summary Statistics:

Number of readings: 13006
Maximum: 14
Minimum: 11.78
Mean: 12.90
Median: 12.91
Mode: 12.69

Comments: See comments on Temperature T002.

1st Quarter 2000 (Cont.)

Temperature Sensor T004



Summary Statistics:

Number of readings: 13007
Maximum: 14.38
Minimum: 12.22
Mean: 13.32
Median: 13.31
Mode: 13.78

Comments: See comments on Temperature T002.

Pond 8S Post Closure Inspection Record Form
Quarterly Monitoring Equipment Inspection

Date: 03/31/2000 Time: 10:00 Inspector: Joel S. Shokes

Signature: Joel S. Shokes

Inspection Item **Inspection Result**
** requires detailed explanation*

1. **Temperature Monitoring Wells (TT001, TT002, TT003, TT004)**

Temperature well covers intact and locked? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

2. **Pressure Monitoring Standpipe (P001)**

Standpipe intact and locked? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

New pressure gauge installed 23 MAR 2000 to correct pressure readings. New gauge works as designed. The old gauge reads gauge pressure, the new one reads absolute pressure.

3. ~~Soil Gas Monitoring Wells (GM-1,GM-2, GM-3, GM-4, GM-5, GM-6, GM-7, GM-8, GM-9, GM-10)~~

Well covers intact and locked? Acceptable ✓ *Unacceptable ____

Have quarterly monitoring samples been taken and logged? Yes ____ *No ✓

Explain Unacceptable Condition:

Quarterly gas samples are scheduled for later this afternoon.

4. **Temperature & Pressure Alarm Panel**

Alarm sound and red light flash when tested? Acceptable ✓ *Unacceptable ____

panel in acceptable condition? Acceptable ✓ *Unacceptable ____

Quarterly data downloaded and database updated? Yes ✓ *No ____

Explain Unacceptable Condition:

NONE

5. **Temperature and Pressure Data Logger Panel**

Data logger panel condition? Acceptable ____ *Unacceptable ✓

Explain Unacceptable Condition:

Temperature digital meter is not functional for T003. This does NOT affect data logging or monitoring functions.

6. **Settlement Monuments**

Settlement monuments clear and accessible? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

7. **Are any repairs or response required?** *Yes ✓ No ____

If a response is required attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item.

a. Inspection item receiving repair TOO3 Digital Meter.

b. Date and Time of completion _____

c. Are repairs acceptable Yes ____ No ____

d. Inspector _____

e. Signature _____

Pond 8S Post Closure Inspection Record Form

☑ Quarterly Groundcover Inspection

☐ Storm Event Inspection

Date: 03/31/2000 Time: 10:00

Inspector: Joel S. Shokes Signature: Joel S. Shokes

Inspection Item	Inspection Result * *requires detailed explaination*

1. **GroundWater Monitoring Wells (155, 156, 157, 158, and 183):**

   Are barrier poles intact? Acceptable ✓ *Unacceptable ____

   Are well covers intact and locked? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   NONE

2. **Vegetative Condition (Grass and Ground Cover)**

   Is the grass living (root system intact)? Acceptable ✓ *Unacceptable ____

   Is there uniform coverage(no bare spots)? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   It has been dry through the 1st Quarter as spring rains have not begun yet. The soil shows uniform and shallow (1-2 inches) cracking due to dryness. Seeds have not begun to germinate. Seed cover is uniform and complete.

3. **Vegetative Soil Conditions**

No excessive soil erosion? Acceptable ✓ *Unacceptable ____

No excessive ruts or potholes present? Acceptable ✓ *Unacceptable ____

No rodent or insect activity

(i.e., fresh soil piles or holes, ...) Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Uniform and shallow cracking due to dryness. This does not affect cap integrity.

4. **Storm Water Management**

Are the swales clear of sediment and debris? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

5. **Slopes**

No sloughing or tension cracking? Acceptable ✓ *Unacceptable ____

No excessive channels or washouts? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

6. ~~Cap Drainage Monitoring (Annual Check to be performed in 3rd Quarter)~~

Is this the 3rd quarter of the year? *Yes ____ No ✓

If 3rd quarter measure and record volume in subdrain outlet #1 N/A

If 3rd quarter measure and record volume in subdrain outet #2

Total Volume

Comments:

NONE

7. **Cap Erosion Monitoring**

~~Perform and record the following topsoil loss measurements~~

Topsoil Marker	**Measurement (inches below nominal installed level)**
1	Ø
2	Ø
3	Ø
4	Ø
5	Ø
6	Ø
7	Ø

Are more then 4 of the above topsoil measurements at 5 inches or more below the installed thickness ?

*Yes ____ No ✓

Comments:

NONE

8. **Security Systems**

Fencing continous and intact? Acceptable ✓ *Unacceptable ____

Gate locks present and functional? Acceptable ✓ *Unacceptable ____

Monitoring camera functional? Acceptable ✓ *Unacceptable ____

Signs posted and visible from all approaches that read "Danger- Unauthorized Personnel Keep Out" in English only? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

Sign by #1's #2 Soil gas well show wear but still legible from street outside of fence

9. **Are any repairs or response required?** *Yes ____ No ✓

If a response is required, attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item:

a. Inspection item receiving repair NONE

a. Date and Time of completion N/A

b. Are repairs acceptable? Yes N/A No N/A

c. Inspector N/A

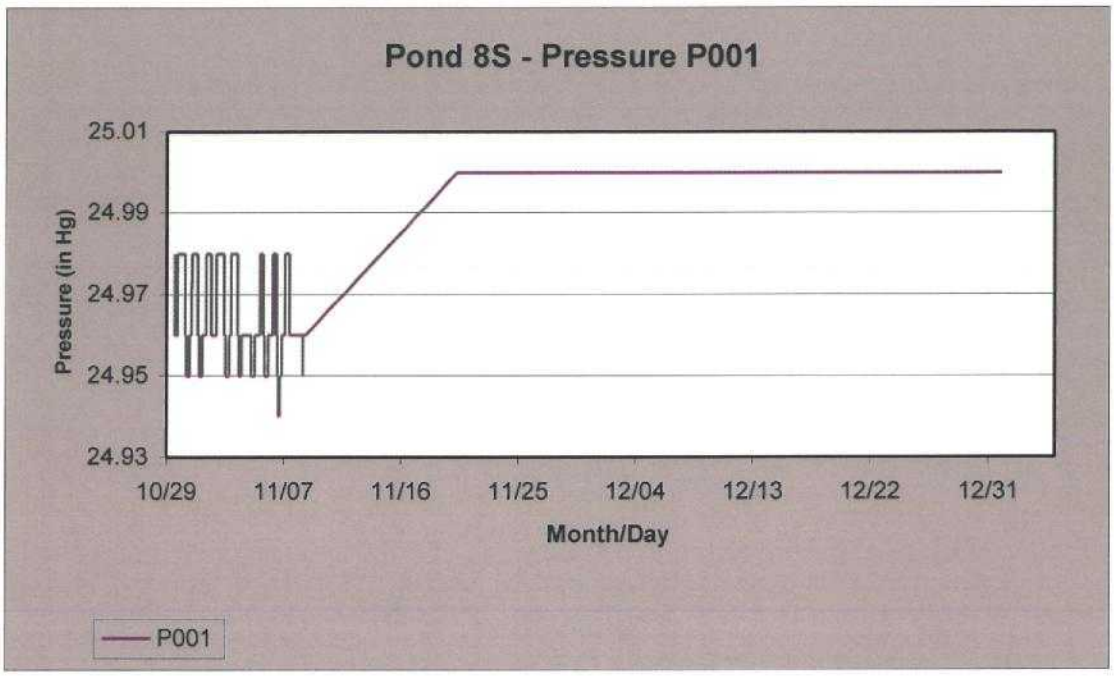
d. Signature N/A

4th Quarter 1999

Pond 8S Post Closure Temperature and Pressure Monitoring Results

Summary: All Temperatures remained in acceptable bands with no incidence of alarms. Pressure readings appear locked in at the bottom end of the pressure range. This anomaly is being investigated. Data retrieval started on 10-29-1999 coinciding with turnover of the pond for post closure monitoring. From 11-08-99 to 11-20-99 data was not recorded. This was due to an unsuccessful program change attempting to better optimize data gathering.

Pressure Sensor P001:



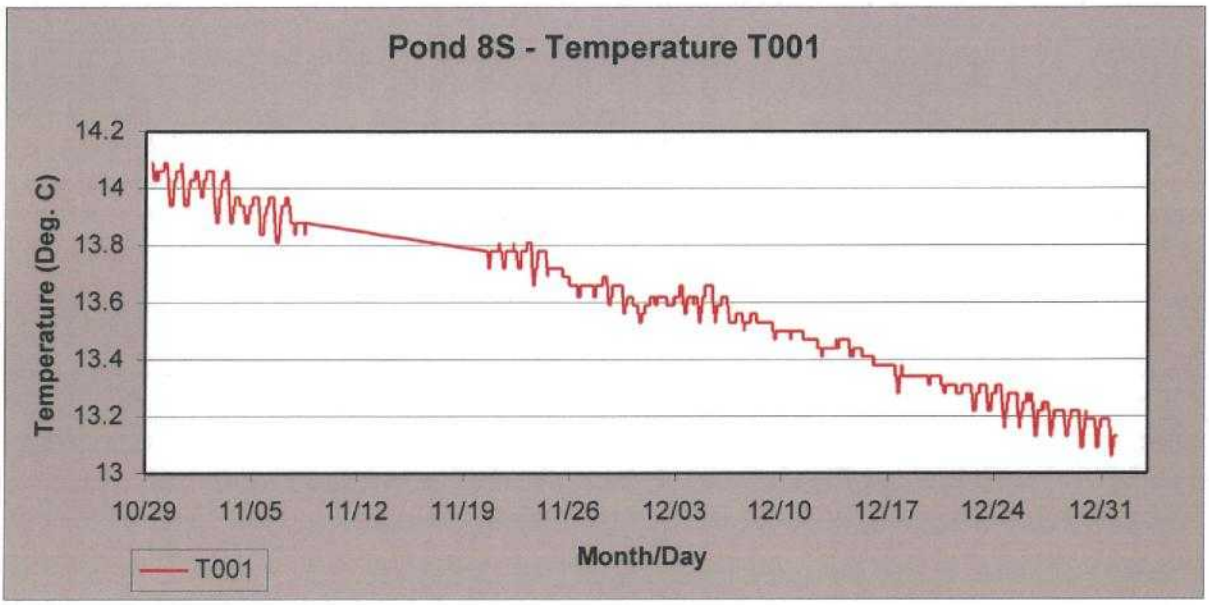
Summary Statistics

Number of readings: 7807
Maximum: 25.0
Minimum: 24.94
Mean: 24.99
Mode: 25.00
Median: 25.00

Comments: Pressure readings initially varied in a 24.96 to 25.00 in Hg range. They appear locked in at 25.0 without variance since 11-22-99. Jim Cameron of Bechtel is investigating the type of sensor used to measure the pressure as a source of this problem.

4th Quarter 1999 (Cont.)

Temperature Sensor T001:



Summary Statistics:

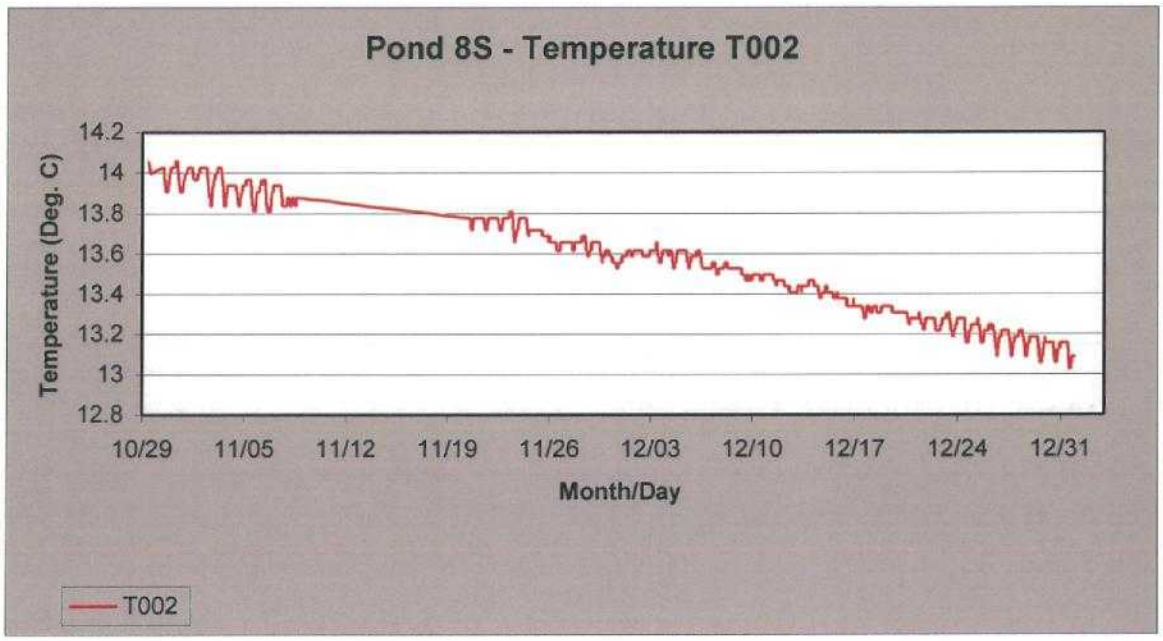
Number of Readings: 7838
Maximum: 14.09
Minimum: 13.06
Mean: 13.58
Median: 13.59
Mode: 13.62

Comments:

Temperature decline this quarter is consistent with the other 3 temperature legs. It is winter and the ambient temperature above the cap has declined. This appears to be reflected in the temperature charts for all the temperature monitors.

4th Quarter 1999 (Cont.)

Temperature Sensor T002:



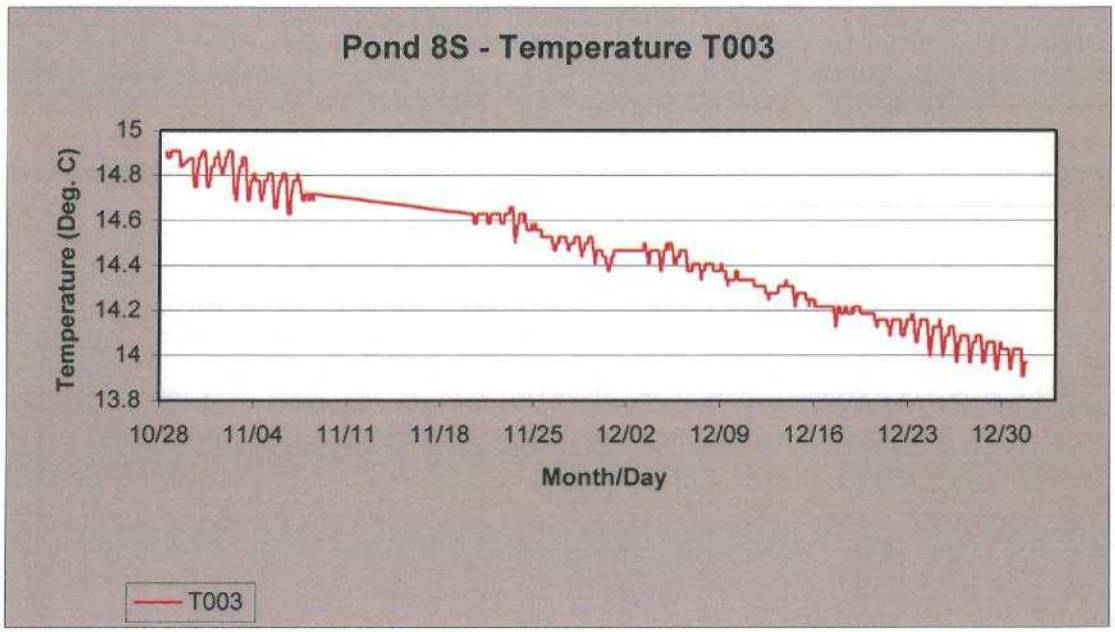
Summary Statistics:

Number of readings: 7687
Maximum: 14.06
Minimum: 13.03
Mean: 13.56
Median: 13.56
Mode: 13.62

Comments: See comments on Temperature T001.

4th Quarter 1999 (Cont.)

Temperature Sensor T003:



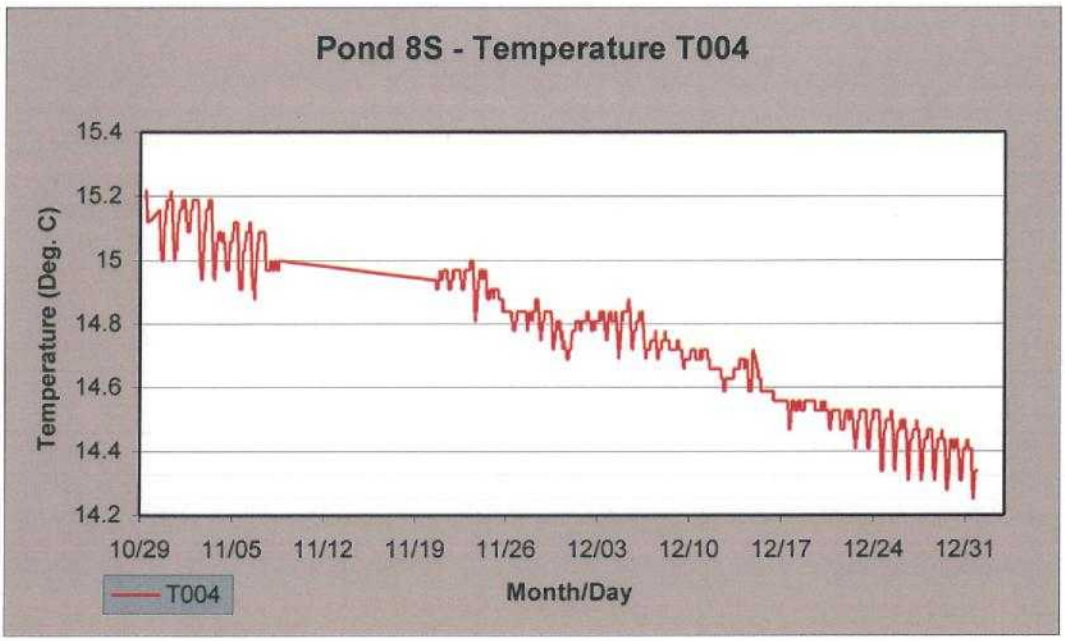
Summary Statistics:

Number of readings: 8050
Maximum: 14.91
Minimum: 13.91
Mean: 14.44
Median: 14.47
Mode: 14.47

Comments: See comments on Temperature T001.

4th Quarter 1999 (Cont.)

Temperature Sensor T004:



Summary Statistics:

Number of readings: 7646
Maximum: 15.22
Minimum: 14.25
Mean: 14.75
Median: 14.75
Mode: 14.84

Comments: See comments on Temperature T001.

Pond 8S Post Closure Inspection Record Form
Quarterly Monitoring Equipment Inspection

Date: 16 DEC 99 Time: 12:30 Inspector: Joel S. Shoka

Signature: Joel S. Shoka

Inspection Item **Inspection Result**
** requires detailed explaination*

1. **Temperature Monitoring Wells (TT001, TT002, TT003, TT004)**

   Temperature well covers intact and locked? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   LABELED COVERS with mean stick permanent MARKER

2. **Pressure Monitoring Standpipe (P001)**

   Standpipe intact and locked? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   NONE

3. **Soil Gas Monitoring Wells (GM-1,GM-2, GM-3, GM-4, GM-5, GM-6, GM-7, GM-8, GM-9, GM-10)**

Barrier poles intact? Acceptable ✓ *Unacceptable ____

Well covers intact and locked? Acceptable ✓ *Unacceptable ____

Have quarterly monitoring samples been taken and logged? Yes ____ *No ✓

Explain Unacceptable Condition:

LABELED MONITOR WELLS with mean stick. SOIL GAS SAMPLEING SCHEDULED for LAST WEEK in ~~QTRLY~~ QUARTER.

4. **Temperature & Pressure Alarm Panel**

Alarm sound and red light flash when tested? Acceptable ✓ *Unacceptable ____

panel in acceptable condition? Acceptable ✓ *Unacceptable ____

Quarterly data downloaded and database updated? Yes ____ *No ✓

Explain Unacceptable Condition:

~~LABELED MW~~ QUARTERLY DATA DOWNLOAD SCHEDULED for 1ST WEEK in JANUARY to capture full QUARTER of DATA.

5. **Temperature and Pressure Data Logger Panel**

Data logger panel condition? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

6. **Settlement Monuments**

Settlement monuments clear and accessible? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

LABEL Settlement monuments with mean stick.

7. **Are any repairs or response required?** *Yes ____ No ✓

If a response is required attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item.

a. Inspection item receiving repair NONE

b. Date and Time of completion NONE

c. Are repairs acceptable Yes N/A No N/A

d. Inspector N/a

e. Signature N/a.

Pond 8S Post Closure Inspection Record Form

☑ Quarterly Groundcover Inspection

☐ Storm Event Inspection

Date: 15DEC99 Time: 12:30

Inspector: Joel S. Shakes Signature: Joel S. Shakes

Inspection Item **Inspection Result**
** requires detailed explaination*

1. **GroundWater Monitoring Wells (155, 156, 157, 158, and 183):**

   Are barrier poles intact? Acceptable ✓ *Unacceptable ____

   Are well covers intact and locked? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   Well # 183 is missing the #3 from its Label.

   # 158 & 183 are outside of the RCRA fenced area on South road

2. **Vegetative Condition (Grass and Ground Cover)**

   Is the grass living (root system intact)? Acceptable ✓ *Unacceptable ____

   Is there uniform coverage(no bare spots)? Acceptable ✓ *Unacceptable ____

   Explain Unacceptable Condition:

   Vegitation hasn't begun to grow. Seed material has uniform coverage

3. Vegetative Soil Conditions

No excessive soil erosion? Acceptable ✓ *Unacceptable ____

No excessive ruts or potholes present? Acceptable ✓ *Unacceptable ____

No rodent or insect activity

(i.e., fresh soil piles or holes, ...) Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

4. Storm Water Management

Are the swales clear of sediment and debris? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

There is snow in the swales. Less than ½ inch light powdery snow similar to the snow in area. Doesnot look like it will prevent drainage in any way.

5. Slopes

No sloughing or tension cracking? Acceptable ✓ *Unacceptable ____

No excessive channels or washouts? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

6. **Cap Drainage Monitoring (Annual Check to be performed in 3rd Quarter)**

Is this the 3rd quarter of the year? *Yes ____ No ✓

If 3rd quarter measure and record volume in subdrain outlet #1 N/A

If 3rd quarter measure and record volume in subdrain outet #2 N/A

Total Volume N/A

Comments:

NONE

7. **Cap Erosion Monitoring**

Perform and record the following topsoil loss measurements

Topsoil Marker	Measurement (inches below nominal installed level)
1	0
2	0
3	0
4	0
5	0
6	0
7	0

Are more then 4 of the above topsoil measurements at 5 inches or more below the installed thickness ?

*Yes ____ No ~~YES~~ ✓

Comments:

~~NONE~~. LABELED MARKERS TS-01 TO TS-07 for consistency of future measurements.

8 (#8)

Security Systems

Fencing continous and intact? Acceptable ✓ *Unacceptable ____

Gate locks present and functional? Acceptable ✓ *Unacceptable ____

Monitoring camera functional? Acceptable ✓ *Unacceptable ____

Signs posted and visible from all approaches that read "Danger- Unauthorized Personnel Keep Out" in English only? Acceptable ✓ *Unacceptable ____

Explain Unacceptable Condition:

NONE

9. **Are any repairs or response required?** *Yes ____ No ✓

If a response is required, attach a copy of the work order and/or details of the maintenance and repair completed. Do this for each item as needed. Then complete the following for each item:

a. Inspection item receiving repair N/A

a. Date and Time of completion N/A

b. Are repairs acceptable? Yes N/A No N/A

c. Inspector N/A

d. Signature N/A

ATTACHMENT B

Summary of Soil Gas Monitoring Results

Pond 8S - Summary of Soil Gas Monitoring Results
1999

Soil Gas Monitoring Locations	4th Quarter 1999					
	H2 (ppm) Peak	H2 (ppm) Steady State	PH3 (ppm) Peak	PH3 (ppm) Steady State	HCN (ppm) Peak	HCN (ppm) Steady State
0007SG01	0.00	0.00	0.00	0.00	N/A	N/A
0007SG02	0.00	0.00	0.00	0.00	N/A	N/A
0007SG03	0.00	0.00	0.00	0.00	N/A	N/A
0007SG04	0.00	0.00	0.00	0.00	N/A	N/A
0007SG05	0.00	0.00	0.00	0.00	N/A	N/A
0007SG06	0.00	0.00	0.00	0.00	N/A	N/A
0007SG07	**20.00**	**20.00**	**0.046**	**0.037**	**16.80**	**16.80**
0007SG08	0.00	0.00	0.00	0.00	N/A	N/A
0007SG09	0.00	0.00	0.00	0.00	N/A	N/A
0007SG10	0.00	0.00	0.00	0.00	N/A	N/A

N/A = Not Applicable, because no Phosphine was detected; therefore, no HCN readings were taken.

Pond 8S - Summary of Soil Gas Monitoring Results
2000

Soil Gas Monitoring Locations	1st Quarter 2000						2nd Quarter 2000					
	H2 (ppm) Peak	H2 (ppm) Steady State	PH3 (ppm) Peak	PH3 (ppm) Steady State	HCN (ppm) Peak	HCN (ppm) Steady State	H2 (ppm) Peak	H2 (ppm) Steady State	PH3 (ppm) Peak	PH3 (ppm) Steady State	HCN (ppm) Peak	HCN (ppm) Steady State
0007SG01	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG02	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG03	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG04	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG05	* 50.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG06	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG07	* 50.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG08	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG09	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG10	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A

Soil Gas Monitoring Locations	3rd Quarter 2000						4th Quarter 2000					
	H2 (ppm) Peak	H2 (ppm) Steady State	PH3 (ppm) Peak	PH3 (ppm) Steady State	HCN (ppm) Peak	HCN (ppm) Steady State	H2 (ppm) Peak	H2 (ppm) Steady State	PH3 (ppm) Peak	PH3 (ppm) Steady State	HCN (ppm) Peak	HCN (ppm) Steady State
0007SG01	0.00	0.00	0.00	0.00	N/A -	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG02	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG03	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG04	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG05	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG06	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG07	0.00	0.00	**0.091**	**0.090**	**23.60**	**23.60**	0.00	0.00	**0.049**	**0.048**	**12.90**	**12.80**
0007SG08	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A
0007SG09	0.00	0.00	**0.054**	**0.053**	**12.90**	**12.70**	0.00	0.00	**0.058**	**0.057**	**12.20**	**12.00**
0007SG10	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.00	0.00	0.00	N/A	N/A

* - Initial reading, which rapidly declined to zero.
N/A = Not Applicable, because no Phosphine was detected; therefore, no HCN readings were taken.